MINUTES OF THE 17th EAC (THERMAL & COAL MINING PROJECTS) MEETING HELD ON 23rd– 24th& 25th July, 2014 IN NEW DELHI

The 17th EAC (Thermal & Coal mining projects) Meeting was held on 23rd– 24th & 25th July, 2014 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 14th EAC meeting held on 27th -28thJune, 2014. M/s MCL, vide letter dated 24.7.2014, intimated that with regard to Hingula project, there is an omission of mentioning of granting EC for only forest free patch of 61 Ha in the West Quarry containing a coal reserve of 23.03 MT approx. which was deliberated in the last EAC meeting and M/s MCL has requested for amendment to the Minutes by including this information. The EAC has reiterated its views and agreed for grant of EC for forest free patch of 61 Ha in the West Quarry containing a coal reserve of 23.03 MT approx. for survival of the mine for two years on which EAC had agreed during the meeting and was inadvertently not reflected in the Minutes of the Meeting. This may be corrected accordingly. However, other observations of the EAC remain unchanged.

C. The following proposals were considered:

17.1 Bhelatand Amalgamated Colliery (expansion from 0.38 MTPA to 0.41 MTPA in an ML area of 521.68 ha) &Expn. Of Bhelatand Washery (0.96 MTPA to 1.5 MTPA in 8 ha) of M/s Tata Steel Ltd., Dhanbad, Jharkhand - EC based on TOR granted dated 23.03.2012.

17.1.1 The proposal is of Bhelatand Amalgamated Colliery (expansion from 0.38 MTPA to 0.41MTPA in an ML area of 521.68 ha) & Expn. of Bhelatand Washery (0.96 MTPA to 1.5 MTPA in 8 ha).

17.1.2 The proponent made the presentation and informed that:

i. The project was accorded TOR vide letter no. J-11015/29/2012–IA.II(M) dated 23.03.2012.
ii. The project is not a Joint Venture project.
iii. Coal linkage: Captive Mines-1.02 MTPA and BCCL mines-0.48 MTPA
iv. The latitude and longitude of the project are 23º46'00" to 23º48' 00"North and 86º19'00" to 86º21'00" East respectively.
iii. The land usage of the project will be as follows:

Sl	Type of Land	Pre-mining	Post-mining	Core area	Changed uses post-mining
		Area (Ha.)			
1	Land under washery	8.00	8	-	Agriculture use; Public and other use
2	Land used for office building	7.24	7.24	-	
3	Land under bungalow, colony, etc.	28.36	28.36	-	
4	Land under village	31.82	31.82	-	
5	Land under plantation and park	31	31	-	
6	Land under tank, drain, nallah etc.	32.90	32.90	-	
7	Land under railways	47.70	47.70	-	
8	Land under road network	55.72	55.72	-	
9	Land under agriculture	286.94	286.94	-	
	Total	529.68	529.68	529.68	

iv. The total geological reserve is 72.91 MT. the mineable reserve 28.70 MT, extractable reserve is 9.50 MT. The per cent of extraction would be 30 for overall seam and 80% in panel.

v. The coal grade is W-III & W-IV. The stripping ratio is Not applicable. The average Gradient is 1 in 5. There will be Six Seams (XVIB, XIV, XIII, XII, XI, X seams) with thickness ranging 2.70 m to 6.63 m.
vi. The total estimated water requirement is 12300 KL/Day (6250 KL/Day to be used for stowing purpose which is recycled and sent back to underground) m^3/day. The level of ground water ranges from 3.49m to 7.51m below ground level.
vii. The Method of mining would be by Semi-Mechanised Board and Pillar system.
viii. There will be neither external nor internal OB dump as it is underground mine.
ix. There will be no mine void as it is underground mine.
x. The seasonal data for ambient air quality has been documented and all results at all stations are within prescribed limits.
xi. The **life of mine** is 25 Years.
xii. **Transportation**: Coal transportation will be through underground belt network upto washery.
xiii. There is no **R & R** involved. There are no PAFs.
xiv. **Cost**: Total capital cost of the project is Rs. 170 Crores. CSR Cost Rs. 5.5 crores (FY15 budget) for Jharia Division. Environmental Management Cost Rs. 9.15 crores
xv. **Water body**: Katri River flowing through the lease boundary.
xvi. **Approvals**: Ground water clearance is not applicable. Mining plan and Mine closure plan has been submitted to Ministry of Coal. Approval is awaited.
xvii. **Wildlife issues**: There are no national Parks, wildlife sanctuary, biosphere reserves found in the10 km buffer zone.
xviii. **Forestry issues**: No forest area involved for mining.
xix. Density of tree plantation will be about1600 trees per Ha.
xx. There are no court cases/violation pending with the project proponent.
xxi. **Public Hearing** was held on 24.01.2014. The issues raised in the PH includes Tree Plantation and its maintenance; ITI training ; Provision of community toilets, dustbins and bathing place for women; proper covering of trucks; Increase in CSR budget of the company; Construction of parks in the villages etc.

17.1.3 The Committee, after detailed deliberations, sought following information for further consideration of the project:

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

17.2 Manuguru Opencast IV Extension Project (3 MTPA Normative to 3.50 MTPA peak in an ML area of 734.60 ha) of M/s The Singareni Collieries Company Ltd., located in Tehsil Manuguru, dist. Khammam, Andhra Pradesh (EC based on TOR granted on 28.10.2010) – Further Consideration.

17.2.1 The proposal is for Manuguru Opencast IV Extension Project (3 MTPA Normative to 3.50MTPA peak in an ML area of 734.60 ha) of M/s The Singareni Collieries Company Ltd., The proposal was last considered in 67th EAC meeting held on 04th -05th February, 2013 wherein, the Committee after deliberation recommended the project for the EC for the expansion of the project with the following specific conditions:

i. The Project proponent may have a relook so that the external OB height be kept with the minimum. The proponent is to give a dumping plan.
ii. It is also suggested that sequencing mining could reduce the height of external dump.
iii. The project has proposed for transportation of coal by road to the railway siding which is situated about 3 Kms away. The committee suggested that it should be taken by belt conveyor system as the quantity of coal involved is large. This will reduce the dust generation appreciably so also the fuel from the vehicle movement as approx.1600 tripper trips will be required to transport the coal.
iv. The proposed expansion of project involves further acquisition of about 185 ha of forestland. The PP stated that they have initiative steps to obtain forest clearance. A copy of the application should be submitted to this committee.
v. The people whose livelihood are dependent on the forest either directly or indirectly and the dependence on minor forest produce should be identified and enumerate the list of the people that would be provided alternative livelihoods. The plan of action for doing the same should also be submitted to this committee.
vi. The committee noted that mining plan and mine closure plan is still awaited which is necessary for EC.

17.2.2 The project was last considered in 67th EAC meeting held on 04th -05th February, 2013 wherein, the Committee recommended the project for granting the EC for the expansion of the project. However, the project could not be further processed for EC due to the absence of approved mining plan and mine closure plan.

17.2.3. The proponent made the presentation and informed that:

i. Based on the recommendations of the EAC, the OB dumping sequence was reviewed along with the OB dumping strategy of adjacent Manuguru Opencast-II Expansion project for minimizing the external OB dump height. In order to minimize the fresh land degradation, 113.79 M.Cu.m of OB generated from the proposed project will be dumped in the OB dump area earmarked for adjacent MNG OC-II Expansion project and the OB which is actually planned to dump in that area will be dumped in the voids of the MNG OC-IV Expansion project to bring the depth of the void to 35 m below ground level. The height of the south external dump and internal dump was planned 120 m earlier. By revising the dumping strategy, the height of the south external dump and internal dump is reduced to 90 m.

ii. Overburden Management – Dumping Strategy

Sl. No	Dump Yard	OB (M.Cu.m)	%	Height (m)	Area (Ha)
1	South External Dump	41.76	11.3	*90	89.80

2	North External Dump	113.79	30.9	**120	***181.29
3	Internal Dump	212.41	57.8	90	395.78
	Total	367.96	100.0		

iii. Stage wise Plantation Programme

Sl. No	Stage of mining operation	Plantation during the stage	Loss of Plantation	Progressive Plantation
		(Area in Ha)		
1	Initial	--	--	60.22
2	Stage –I	--	-26.56	33.66
3	Stage – II	40.03	-30.80	42.89
4	Stage – III	29.11	--	72.00
5	Stage – IV	21.47	--	93.47
6	Stage - V	289.08	--	382.55
7	Final stage	--	--	382.55
8	Mine Closure Stage	20.21	--	402.76

Description of area	Plantation (Ha)
Quarry area	107.12
OB Dumps area	283.67
Other places (Service buildings, CHP, etc.)	11.97
Total	402.76

iv. Post Mining Land Use

Sl. No.	Description	LAND USE DETAILS (Ha.)				
		Plantation	Water body	Public use	Other uses	Total
1	Excavation Area (including safe barrier, drains and inspection roads)	107.12	314.98	0.00	6.64	428.74
2	External Dump (including safe barrier, drains and inspection roads)	105.92	0.00	0.00	5.66	111.58
3	Service buildings, CHP, etc.	11.97	0.00	0.00	3.79	15.76

4	Internal dump area (void area of OC-I and COC)	177.75	0.00	0.00	0.77	178.52
	TOTAL	402.76	314.98	0.00	**16.86**	**734.60**

v. As per the recommendations of EAC, it is proposed to transport the coal from pit head CHP to railway siding through belt conveyor:
vi. Stage-I clearance under the provisions of Forest (Conservation) Act, 1980, for the 184.95 Ha of the forestland was granted vide MoEF File No. 8-79/2013-FC, dated 30.06.2014. (184.95 Ha is a part of 430.42 Ha of forestland diversion proposal)
vii. Out of 184.95 Ha of forestland involved in the project, an extent of 127.50 ha is covered with Eucalyptus planted by State Forest Development Corporation and remaining 57.45 Ha is covered with Open forest.
viii. There are no forest dwellers in the proposed forestland for diversion. The same was certified by District collector vide RC No. G/333/2013, dated 14.06.2013.
ix. Measures for alternate livelihood for the dependence on minor forest produces (indirect dependence) based on Grama Sabha conducted at Tirlapuram Village under the chairmanship of special officer viz. Providing of employment to the unemployed youth of the affected villages by forming societies through Project Officer, ITDA, Bhadrachalam; Providing of vocational training; Plantation in degraded forestland around the project location; Feeding of mine discharge water into the nearby tanks; Desilting of surrounding village tanks; Training for securing employment in Armed Forces; Development of social infrastructure through SHAPE Programme of SCCL.
x. Mining Plan was approved by the Ministry of Coal, GoI vide Lr. No. 13016/6/2008-CA-II, dtd. 08.05.2014.

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

i. Old stabilized dumps vegetated not to be disturbed. The new dumps shall be of 90 meter.
ii. Active internal dumps shall e be rehandled to reduce to size of the void. This may be reexamined and report be submitted.
iii. The issue of conveyor belt be examined for implementation.
iv. The plantation be carried out with the minor forests produce plants.
v. Action plan for afforestation and livelihood (e.g. piggery, goatry, etc.) of the PAFs be [prepared for implementation and submitted to the MoEF.
vi. There shall be no external dumps in the new mining areas.
vii. The proponent is advised to prepare a feasibility report and model forest plan for implementation and the report be submitted to the MoEF.
viii. A sub-Committee of the EAC will visit the project for inspection of the afforestation, livelihood issues.

17.3 Dugda NLW Coal Washery(2.5 MTPA in an ML area of 21 ha)M/s Bharat Coking Coal Ltd., Dist. Bokaro, Jharkhand – TOR

17.3.1 The proposal is Dugda NLW Coal Washery (2.5 MTPA in an ML area of 21 ha) M/s Bharat Coking Coal Ltd., Dist. Bokaro, Jharkhand. The proponent made the presentation and informed that:

i. The proposal is for Terms of Reference for coal washery.

ii. Earlier TOR was granted vide letter no. J-11015/239/2010-IA.II(M) dated 23.09.2010. However, the proponent has revised the plan of washery and sought a fresh ToR.

iii. The latitude and longitude of the project are 24^0 23^0 44' 0" & 23^0 44'30" N and 86^0' 9' 30" & 86^0 10'30" E respectively.

iv. There is no Joint Venture.

v. Details of coal linkage:

i) AKWM OCP : 1.5 Mty
ii) Tetulmari OCP : 0.5 Mty
iii) Block – IV OCP : 0.5 Mty

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

vii. Approximately 21 Ha of undeveloped land is required for the washery which is already under possession with BCCL.

viii. Transportation: Raw coal intake and product dispatch will be though conveyor at railway siding existing besides the proposed washery.

i.	In pit (km)	Not applicable
ii.	Surface to siding (km)	Integrated in unit.
iii.	Siding to loading (km)	Integrated in unit.

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

x. The **life of the washery** is 18 Years

xi. Total estimated **water requirement**: approx. 0.30 MGD KLD as make up water & air pollution control sprinkling,

xii. **Cost**: Total capital cost of the project is Rs. 90 Crores.

xiii. CSR Cost: As per CIL's policy, the company will spend 2% of the retained earning of the previous year subject to a minimum of Rs. 2/- per tonne of coal production.

xiv. **Water body** : Damodar River (2.5 Km)

xv. **Board's approval**: Approved on 30.08.2008 by BCCL Board.

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

xvii. **Forestry issues**: There is no forest area involved in the project site.

xviii. There are no court cases/violation pending with the project proponent.

17.3.2 The Committee, after detailed deliberations, recommended the project for granting ToR with standard ToRs with following specific ToRs:

i. The washery shall be a zero discharge washery.
ii. Permission form the District Collector be obtained for water linkage to the washery and for extraction of ground water.
iii. Explore the possibility of augmenting of additional water other than the ground water or from the Damodar River such as rain water harvesting or making a water reservoir
iv. Storm water should be passed through settling tank before discharge into the Damodar river.

17.4 Ghonsa OCP expansion (from 0.45 MTPA to 0.60 MTPA in an ML area of 128.79 ha) of M/s Western Coalfield Ltd, dist. Yavatmal, Maharashtra - EC under 7(ii) of EIA Notification, 2006.

17.4.1 The proposal is Expansion (under 7(ii) of EIA Notification 2006) of Ghonsa OCP expansion (from 0.45 MTPA to 0.60 MTPA in an ML area of 128 ha) of M/s Western Coalfield Ltd, dist. Yavatmal, Maharashtra.

17.4.2. The proponent made the presentation and informed that:

i. The project was accorded EC vide letter no. J-11015/165/2009-IA.II (M) dated 29th February, 2012 for 0.45 MTPA. Now project proponent has applied for 25 % expansion under 7(ii) of EIA Notification 2006 in line with the MoEF O.M. No. J-11015/30/2004-IA.II (M) dated 19.12.2012.
ii. The latitude and longitude of the project are 19^0 57'11" to 19^0 58'35" N and 78^0 49'30" to 78^0 50' 25" E respectively.
iii. There is not Joint Venture.
iv. Coal Linkage: Linked to Thermal Power Plants of MAHAGENCO.
v. The land usage of the project will be as follows:
Pre-Mining:

S.N.	LAND USE	Within ML Area (ha)	Outside ML Area (ha)	Total
1	Agricultural land	129.79	---	128.79
2	Forest land	Nil	Nil	Nil
3	Waste land/Govt. land	---	----	---
	Total	128.79	Nil	128.79

Post- Mining

Sl. No.	Particulars	Plantation	Void	Public Use	Undisturbed/ Unplanted	Total
1	External Ob Dump	29.35	-	-	-	29.35
2	Excavated Area	4.00	34.05	-	---	38.05
3	Infrastructure	-	-	10.00	-	10.00
4	Blasting Zone Including Rationalisation Area	10.00	-	-	25.39	35.39
5	Embankment	15.00	-	-	-	15.00
6	Colony			1.00		
	TOTAL	58.35	34.05	11.00	25.39	128.79

LAND USE PATTERN - MINING LEASE AREA

Sl. No.	Particulars	Agricultural Land (Ha)	Waste Land (Ha)	Forest Land (Ha)	Total
1	Excavation Area	38.05	-	--	38.05
2	Ext. Ob Dump	29.35	---	-	29.35
3	Infrastructure	10.00	-	-	10.00
4	Blasting Zone	35.39	--	-	35.39
5	Embankment	15.00	-	-	15.00
6	Colony Outside ML Area	1.00	---	---	1.00
	Total	128.79	----	----	128.79

vi. The total geological reserve is 20.50 Mt. The mineable reserve 1.73 Mt (within the quarry), extractable reserve is 1.73 Mt (1,1,1)(within the quarry). The per cent of extraction would be 90 %..
vii. The coal grade is "E" (Non – Coking). The stripping ratio is 1: 4.94 m^3/t. The average Gradient is 1 in 12 to 1 in 10.5. There will be two seams with thickness ranging from Seam – I – 1.00 to 3.50 & Seam – II – 2.12 to 6.30.
viii. The total water requirement for project site has been worked out to 383 Kl per day. The level of ground water ranges in Pre Monsoon 3.90m -14.00 m & Post Monsoon 1.90 m- 10.10 m bgl.
ix. The method of mining would be opencast with shovel-dumper combination.
x. There is one external OB dump with Quantity of 7.37 Mm3 in an area of 29.35 Ha with height of 60 meter and 1 internal dump with Quantity of 1.17 Mm^3 in an area of 4 Ha with the height of upto ground level.
xi. The final mine void would be in 34.05 Ha with depth of 46 m.
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(Balance life).
xiv. **Transportation**: Coal transportation in pit by Dumpers, Surface to Siding by Dumpers and loading to siding by Pay Loaders.
xv. There is **R & R** involved and it has been already completed. No additional R&R required.
xvi. **Cost**: Total capital cost of the project is Rs. 6.99 crores. CSR Cost Rs. 2 /Tonne. Environmental Management Cost Rs. 9.00 lakhs.
xvii. **Water body**: There are flowing Vidharbha River.
xviii. **Approvals**: Board's approval obtained on 17.12.2012. Mining plan: Approved by WCL Board. Mine closure plan has been approved by WCL Board on 25.08.2012.
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 in the project.
xxi. Total **afforestation** plan shall be implemented covering an area of 58.35 ha at the end of mining.
xxii. There is no court **cases/violation** pending with the project proponent.

17.4.3. The EAC has taken a note of the Certificate of compliance of earlier EC submitted by the MoEF Regional Office, vide letter No. 3-7/2005(ENV)/005 dated 15.05.2014. The Committee was not satisfied with the level of compliance from the proponent which is a subsidiary of the Coal India Limited. The EAC was of the view Coal India Limited is technically rich and has enough human resources to deal with the environmental matters more specifically with compliance of EC conditions. The proponent has submitted that they have complied with and also prepared action plan so as to comply with the EC conditions. The proponent has further submitted that even after they informed the RO. MoEF, the responses were fully captured in the RO's report. The Committee has observed that there is a deficiency in cooperation and communication between the proponent and the RO, MoEF and urged both the parties to sort out the matter and submit a revised compliance report so as to enable the EAC to take a view.

17.4.4 The Committee, after detailed deliberations, sought following information for further consideration of the project:

i. The garland drain and toe wall may be provided. The comments of DGMS may be obtained on adequacy of garland drain vis-à-vis toe wall.
ii. Check dam/secondary/tertiary channels may be provided for storing g water/rain water harvesting for ground water recharge. Continuous pH meter be provided for monitoring the discharge of acid mine water.
iii. The proponent may consult their counterpart subsidiary in Assam Coalfields for treatment and monitoring of acid mine water discharge.

iv. A Sub-Committee of EAC may visit to inspect the Assam Coalfield as well as M/s Ghonsa OCP expansion with regard to treatment and monitoring of acid mine water discharge.

v. The approved mine plan along with comprehensive information with regard to installation of piezometer, CHP and mechanically covered trucks be submitted for further consideration.

vi. An Environmental Management Cell with an Ecologist and social scientists be established for environmental monitoring in the area.

vii. The submission of action plan by the Proponent with regard to non-compliance of several EC condition vis-à-vis the compliance report from Regional Office, MoEF may be further clarified to the RO, MoEF and a revised compliance report be submitted for further consideration.

17.5 Pauni opencast expansion (from 0.72 MTPA 0.90 MTPA in an ML area of 255 ha) of M/s Western coalfield Limited, located at dist. Chandrapur, Maharashtra- EC under 7(ii) of EIA Notification 2006.

17.5.1 The proposal is Expansion (under 7(ii) of EIA Notification 2006) of Pauni opencast expansion (from 0.72 MTPA 0.90 MTPA in an ML area of 255 ha) of M/s Western coalfield Limited, located at dist. Chandrapur, Maharashtra.

17.5.2 The proponent made the presentation and informed that:

i. The project was accorded EC vide letter no. J-11015/91/2005-IA.II (M) dated 14.07.2006 for 0.72 MTPA. Now project proponent has applied for 25 % expansion under 7(ii) of EIA Notification 2006 in line with the MOEF O.M. No. J-11015/30/2004-IA.II (M) dated 19.12.2012.

ii. The latitude and longitude of the project are 19^o 47' 30" to 19^o 49' 25" N and 79^o16' 21" to 79^0 19'09 E respectively.

iii. There is no joint venture.

iv. Coal Linkage: Linked to Thermal Power Plants of MAHAGENCO

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

Pre-Mining: Agricultural land – 240.45 ha
Govt. Land – 13.55 ha
Total – 255 ha

Post- Mining

S. N.	category	Plantation /Reclaimed with plantation	Reclaimed land	Water Body	Public use	Undisturbed	Total
1.	External OB dump	20.00				46.00	66.00
2.	Excavation/quarry area	5.00		54.00		5.00	64.00
3.	Infrastructure incl. roads				3.50		3.50
4.	Afforestation	20.00				-	20.00
5.	Embankment	3.50					3.50
6.	Blasting zone &Rationalisation area					98.00	98.00
		48.50	--	54.00	3.50	149.00	255.00

vi. The total geological reserve is 55.697 Mt. The mineable reserve 2.482 Mt (Balance as on 01.04.2012). The per cent of extraction would be 13.27%. (based on overall geological vs extractable/mineable)

vii. The coal grade is 30% Grade 'D' and 70% Grade 'E'. The stripping ratio is 1:3.87 m^3/t. The average Gradient is 1 in 7 to 1 in 10. There will be One Composite Seam with thickness ranging from 11.95 m to 14.83 m.

viii. The total water requirement for project site has been worked out to 350 Kl per day.
ix. The method of mining would be Opencast with Shovel – Dumper Combination.
x. There is one external OB dump with Quantity of 14.73 Mm3 in an area of 66 Ha with height of 55 meter and 1 internal dump with Quantity of 8.709 Mm^3 in an area of 10 Ha with the height of upto ground level.
xi. The final mine void would be in 54 Ha with depth of 85 m.
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(Balance life).
xiv. **Transportation**: Coal transportation in pit by Dumpers, Surface to Siding by Tippers and loading to siding by Pay Loaders.
xv. **Cost**: Total capital cost of the project is Rs. 45.63 crores. CSR Cost Rs. 5 /Tonne. Environmental Management Cost Rs. 11.74 lakhs.
xvi. **Water body**: There are flowing Wardha River (8 Km) and three season nullahs namely Sakhari, Chincholi & Pauni flow around the mine area ultimately discharging into Wardha River.
xvii. **Approvals**: Mine closure plan has been approved by WCL Board on 25.08.2012.
xviii. **Wildlife issues**: There are no national Parks, wildlife sanctuary, biosphere reserves found in the 10 km buffer zone.
xix. **Forestry issues**: There is no forest area involved in the project.
xx. Total **afforestation** plan shall be implemented covering an area of 48.50 ha at the end of mining. Density of tree plantation 2500 trees/ ha of plants.
xxi. There are no court **cases/violation** pending with the project proponent.

17.5.3. The EAC has taken a note of the Certificate of compliance of earlier EC submitted by the MoEF Regional Office, vide letter No. 3-46/2006(ENV)/715 dated 28.03.2014. The Committee was not satisfied with the level of compliance from the proponent which is a subsidiary of the Coal India Limited. The EAC was of the view Coal India Limited is technically rich and has enough human resources to deal with the environmental matters more specifically with compliance of EC conditions. The proponent has submitted that they have complied with and also prepared action plan so as to comply with the EC conditions. The proponent has further submitted that even after they informed the RO. MoEF, the responses were fully captured in the RO's report. The Committee has observed that there is a deficiency in cooperation and communication between the proponent and the RO, MoEF and urged both the parties to sort out the matter and submit a revised compliance report so as to enable the EAC to take a view.

17.5.4 The Committee, after detailed deliberations, sought following information for further consideration of the project:

i. There are several non-compliances of the EC conditions as submitted by the RO, MoEF.
ii. The proponent has submitted that even if information was submitted to the RO, MoEF this has not been reflected in the compliance report. The proponent was advised to clarify to the RO, MoEF and submit revised comprehensive report.
iii. Construction of Check Dam/water conservation was one of the conditions in the EC. No action in this regard has been initiated by the proponent. This maybe clarified and action plan alongwith time frame & budget be submitted.
iv. Settling tanks may be provided.

17.6 Bhatadi OC Expn. Project (from 0.65 MTPA to 0.975 MTPA within existing ML area of 847.57 ha) of M/s Western Coalfields Ltd. Located at Dist. Chandrapur, Maharashtra - EC under 7(ii) of EIA Notification 2006.

17.2.1 The proposal is Expansion (under 7(ii) of EIA Notification 2006) of Bhatadi OC Expn. Project (from 0.65 MTPA to 0.975 MTPA within existing ML area of 847.57 ha) of M/s Western Coalfields Ltd. located at Dist. Chandrapur, Maharashtra.

17.2.2 The proponent made the presentation and informed that:

i. The project was accorded EC vide letter no. J-11015/31/2001-IA.II (M) dated 19th May, 2005 for 0.65 MTPA. Now project proponent has applied for 50% expansion under7(ii) of EIA Notification 2006 in line with the MOEF O.M. No. J-11015/30/2004-IA.II (M) dated 07.01.2014.
ii. There is no joint venture
iii. Coal Linkage: Linked to Thermal Power Plants of MAHAGENCO.
iv. The latitude and longitude of the project are 20^0 2'45" to N 20^0 5' 45" N and 79^o13'10" to E 79^o16'55" E respectively.
v. The land usage of the project will be as follows:

Pre-Mining:

Type of Land	Required As Per Emp (In ha)	Actual Area Acquired As On 01.12.2013 (In Ha)	Land Proposed To Be Acquired (In HA)	Total Being Acquired In Ha
Forest Land	Nil	Nil	0.200	0.20
Other Govt. Land	8.61	12.27	39.984	52.254
Agricultural Land	838.96	357.45	427.030	784.48
Total	847.57	369.72	477.85	836.974

Post- Mining:

S N	Particulars	Land in ha
1	Afforested Area: a) Backfilled Area – 56.92 b) External OB Dump – 142.10 C) Embankment – 13.00	212.02
2	Water Body / Void	114.10
3	Vacant land to be released with plantation	485.40
4	Infrastructure	10.90
5	Township	16.70
6	Road	8.45
	TOTAL	847.57

vi. The total geological reserve is 45.714 MT. The mineable reserve 23.566 MT, extractable reserve is 21.21 MT. The per cent of extraction would be 90 %.
vii. The coal grade is E. The stripping ratio is 1:5.74 Cum/t. The average Gradient is 1 in 4 to 1 in 11. There will be one seams with thickness ranging from 15.78-20.83 m.
viii. The total estimated water requirement is 222 m3/day. The level of ground water ranges in Pre Monsoon 3.65 to12.50 m. & Post Monsoon 0,15m to 6.50 m bgl.
ix. The Method of mining would be opencast with shovel-dumper combination;
x. There is 2 external OB dump with Quantity of 69.708 Mm^3 in an area of 142.10 Ha with height of 60 meter and 6 internal dump with Quantity of 46.46 Mm^3 in an area of Area included with external OB Dump area.
xi. The final mine void would be in 114.10 Ha with depth of 150 m.
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 18 Years.

xiv. **Transportation**: Coal transportation in pit by Dumpers, Surface to Siding by Through Dumpers and loading to siding by Pay Loaders.

xv. There is **R & R** involved. There are 557 PAFs.

xvi. **Cost**: Total capital cost of the project is Rs. 94.81 crores. CSR Cost Rs. 5/per tone. R&R Cost 6.27 Crore. Environmental Management Cost Rs. 2.27 crores.

xvii. **Water body**: Erai river is within the mine lease boundary of the project. The proposal for Erai river diversion has been submitted to CDO, Nasik and there team is expected to visit site and further action will be taken as per their advice.

xviii. **Approvals**: Board's approval obtained on vide letter No. WCL/BD/SECTT/BM-253/2014/1389, dated 26.02.2014. Mining plan: Mining plan approved by WCL board vide letter No. WCL/BD/SECTT/BM-253/2014/1389, dated 26.02.2014. Mine Closure Plan Approved on dated 28.01.2013.

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

xx. **Forestry issues**: Total forest area involved 0.20 Ha. Stage – I Forest Clearance is awaited.

xxi. Total **afforestation** plan shall be implemented covering an area of 199.02 ha at the end of mining. Reclaimed external OB dump (142.10 ha) and internal dump (56.92 ha), Density of tree plantation 2500 trees/ ha of plants.

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

17.2.3 The compliance certificate of earlier EC conditions from MoEF Regional Office has not been received and the Committee decided to defer the proposal for further discussion. The Committee, after detailed deliberations, sought the compliance report from the RO, MoEF.

17.7 Hindustan Lalpeth Expn. Opencast Mine Project (from 1 MTPA to 1.25 MTPA within existing ML area of 311.66 ha)of M/s Western Coalfields Ltd., located at dist. Chandrapur, Maharashtra–TOR

17.7.1 The proposal is of Hindustan Lalpeth Expn. Opencast Mine Project (from 1 MTPA to 1.25 MTPA within existing ML area of 311.66 ha) of M/s Western Coalfields Ltd., located at dist. Chandrapur, Maharashtra. The proponent made the presentation and informed that:

i. The project was accorded EC vide letter no. J-11015/93/2005-IA.II (M) dated 14th July, 2006. Now project proponent has applied for expansion.
ii. There is no joint venture.
iii. Coal Linkage: Linked to Thermal Power Plants of MAHAGENCO.
iv. The latitude and longitude of the project are 19^0 54'29" to 19^0 55'37" N and 79^o18'07" to 78^o19'17" E respectively.
v. The land usage of the project will be as follows:

Pre-Mining:

S.N.	LAND USE	Within ML Area (ha)	Outside ML Area (ha)	Total
1	Tenancy land	139.86	Nil	139.86
2	Forest land	71.84	Nil	71.84
3	Govt. land	77.16	Nil	77.16
4	Grazing land	Nil	Nil	Nil
5	Surface water bodies	Nil	Nil	Nil

6	Settlements -Deforested Area (Dharamshala Tukum)	6.07	Nil	6.07
7	Others (specify) - Deforested Area (Siddartha Nagar & Central Rly.)	16.73	Nil	16.73
	Total	311.66	Nil	311.66

Post- Mining

S.N.	Land use during mining	Land use (ha)				
		Plantation	Water Body	Public use	Undisturbed	Total
1	External OB Dump	73.10	-	-	-	73.10
2	Top soil dump	-	-	-	-	-
3	Excavation	80.0	54.46	16.19	-	150.65
4	Roads	1.0	-	5.36	-	6.36
5	Built up area	1.0	-	3.0	-	4.0
6	Green Belt	-	-	-	-	-
7	Undisturbed Area	75.0	-	-	2.55	77.55
	Total	230.1	54.46	24.55	2.55	311.66

iv. The total geological reserve is 6.523 MT. The mineable reserve 5.87 MT, extractable reserve is 5.87 MT. The per cent of extraction would be 89.98 %.

v. The coal grade is G-10. The stripping ratio is 7.522 m^3/t (Without re-handling of OB). The average Gradient is 9.881 m^3/t (With re-handling of OB). There will be one seams with thickness ranging from 1 in 4 to 1 in 6m.

vi. The total estimated water requirement is 270 m^3/day. The level of ground water ranges from 8.70m -14.45 m pre-monsoon; 5.45m-15.65 m post monsoon.

vii. The Method of mining would be opencast with shovel-dumper combination.

viii. There is two external OB dump with Quantity of 7.42 Mcum in an area of 73.10 Ha with height of 90 m and one internal dump with Quantity of 48.003 Mcum in an area of 68.29 Ha.

ix. The final mine void would be in 81.71 Ha with depth of 175 m. and the Total quarry area is 230.96 Ha (floor 84.19 ha & surface 146.77 ha) with depth of 175 m (final). A void of 81.71 ha with depth of 175 m.

x. The life of mine is 8 Years.

xi. Transportation: Coal transportation in pit by Shovel & Dumpers, Surface to Siding by Dumpers and loading to siding by Shovel & Dumpers.

xii. Cost: Total capital cost of the project is Rs 40.06 lakhs.

xiii. Water body: The nearby Erai River flows from North to South at the western end about 1 km from mine. HFL recorded in the area is 180.267m on 15th Sept.1959.

xiv. There are no national Parks, wildlife sanctuary, biosphere reserves found in the10 km buffer zone.

xv. Approvals: Board's approval obtained on 16-01-2014. Mining plan has been submitted to MOC vide our letter No. 106 dated 26.09.13 for approval.

xvi. Forestry issues: Total forest area involved 71.84 Ha for mining.

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

311.66	71.84	No. F.N.8-115/95-FC/1480-F, dated 8.5.2001	71.84 (41.92 ha is Mining right land + 29.92 ha is all right land)	36.98 ha forest land acquired under Mining Right out of 41.92 ha land is required to be diverted under All Right.	Applied to D.F.O. for diversion of 36.98 ha of forest land from Mining Right to All Right.

36.98 ha forest land acquired under Mining Right out of 41.92 ha land is required to be diverted under All Right.

xvii. Total afforestation plan shall be implemented covering an area of 230.1 ha at the end of mining. Reclaimed external OB dump (73.1 ha), backfilled area (80 ha) and Others area (77 ha). Density of tree plantation 2500 trees/ ha of plants.

xviii. There are no court cases/violation pending with the project proponent.

17.7.2 The Committee, after detailed deliberations, recommended the project for granting ToR with standard ToRs. The proponent has submit the compliance reports of earlier ECs during consideration for EC.

17.8 Lingraj OCP Expn. (13 MTPA to normative 16 MTPA peak prod. of 20 MTPA within ML area of 1410.020) of M/s Mahanadi Coalfields Ltd., located in Talcher Coalfields, dist. Angul, Orissa – Validity of TOR

17.8.1 The proposal is of Lingraj OCP Expn. (13 MTPA to normative 16 MTPA peak prod. of 20MTPA within ML area of 1410.020) of M/s Mahanadi Coalfields Ltd., located in Talcher Coalfields, dist. Angul, Orissa.

17.8.2 The project was accorded TOR vide letter no. J-11015/174/2010-IA.II(M) on 21.03.2012. Proponent has requested the Ministry on 12.03.2014 for extension of TOR validity due to delay in public hearing because of model code of conduct.

17.8.3 The EAC received a representation which suggested to document information on the following:

i. No cumulative impact assessment
ii. Water level has gone down and serious problem of potable water
iii. Mine water is polluting the Brahmani River
iv. Very poor compliance to the conditions of EC in the existing project

17.8.4 The Proponent responded and submitted that :

i. This is an application for extension of TOR for Lingaraj OC Expansion Project (20 MTPA) for which submission of EIA/EMP study report is delayed due to postponement of PH due to imposition of code of conduct for General Elections 2014. This is a running mine since 1991. EIA study has been made for core zone as well as buffer zone of 10 Km as per the standard procedure provided in the TOR. Hence this is a misleading statement in the representation just to misguide the EAC and delay the EC process. The proponent refuted the charges. In addition, the regional EIA/Cumulative Impact Assessment has been made quite a few times in the past for Angul-Talcher Area and few of them are (1) Regional EIA/EMP by M/ss Kirloskar Consultants under Norwegian Govt. funding for Govt. of Odisha (2) Regional EIA/EMP by ISM Dhanbad conducted for SPCB, Odisha.

ii. With regard to water level has gone down and serious problem of potable water, the proponent has stated that this is not true. The statement has been made without any scientific proof. MCL strongly object this statement with the reasons that:

a. Ground water level monitoring is being conducted for long term throughCMPDI which indicated that no such declining trend.
b. CGWB also carries out monitoring that also indicates no declining trends.
c. OB is very less compared to coal and therefore the void is >40%, which isnothing but huge rain water harvesting places. Strata seepage water and rain water accumulate in these voids and ground water table is recharged.
d. All the peripheral villages are supplied with potable water during the summer season. In addition, Piped Water Supply scheme has also been implemented at the cost of 22 crore, wherein 19 villages are being catered through this scheme.
e. New piezometers are to be constructed at TalcherCoalfild- A plan showing the proposed location is enclosed as Annexure-I.
f. CMPDI has conducted hydro-geological study for Bhubaneswari OCP and 10 km radius periphery, which is applicable for Lingaraj OCP also, being an adjacent mine.

iii. With regard to Mine water is polluting the Brahmani River, the proponent stated that this statement is false and baseless. There is no outside discharge of mine water. There is water scarcity for the industrial and domestic use of the mine during summer season. Hence there is no discharge of water from the mines. A Test Report from Pollution Control Board has also confirmed to this. The Brahmani River is far away from Ungaraj OCP (> 5 km) and the Talcher Canal between the Mine and Brahmani River at distance of 0.5 to 1 km from the mine, which has no chance of mixing of mine water with the river.

iv. With regard to compliance to the conditions of EC in existing project, this project is a running mine since long and being monitored by SPCB as well as MoEF, RO. Compliance level is good.

17.8.5 The Committee, after detailed deliberations, recommended the project for extending validity of the ToR with following specific ToRs for one year:

i. Impact on riparian system within the 10 kms radius of the mining area be submitted.
ii. Monitoring of ground water at the depth equivalent to mine depth into the 10 kms radius of the mine be submitted.

17.9 Cluster no. 6 group of mixed mines project (1.453 MTPA normative to 2.25 MTPA peak in an ML area of 4775 ha) of M/s Eastern Coalfield Limited, located at dist. Burdwan, West Bengal - EC based on TOR granted dated 09.02.2011, amended on 29.02.2012.

17.9.1 The proposal is of Cluster no. 6 (Group of 9 existing UG mines) (1.453 MTPA normative to 2.25 MTPA peak in an ML area of 4775 ha) of M/s Eastern Coalfield Limited, located at dist. Burdwan, West Bengal - EC based on TOR granted dated 09.02.2011, amended on 29.02.2012.

17.9.2 The proponent made the presentation and informed that:

i. The project was accorded TOR vide letter no. J-11015/385/2010–IA.II(M) dated 09.02.2011; revised TOR on 29.02.2012 and extension of TOR was on 11.03.20114. 9 existing UG mines (1 closed UG mine), 4 new opencast patches over existing underground workings proposed within the cluster. Present production from the cluster is 0.364 MTY. It is planned to achieve a peak

capacity of 2.25 MTY from the mines and proposed OC patches in the cluster .

ii. The latitude and longitude of the project are 23^0 38" to 23^0 43" and 86^0 48'' to 86^0 58'' respectively.

iii. There is no joint venture.

iv. The existing Mines are - 9 Nos which are UG Mines with Cluster Capacity : 1.013 MTPA (Normative), 1.750 MTPA (peak)

v. The presenet proposal is for conversion of 4 of the existing UG mines to Mixed Type due to OC proposals within lease hold. The resultant mines – 9 Nos which shall be 5 UG & 4 Mixed (UG & OC) with cluster capacity : 1.453 MTPA (n), 2.250 MTPA (p)

Details of Mines in Cluster No. 6 are as follows:

Sl No.	Name of the Mine	Lease Area (Ha)	Normative Production Capacity (MTY)	Peak Production Capacity (MTY)	Mine Life (Years)
1	Dhemomain UG	1623	0.155	0.21	> 50
2	Sodepur UG	808	0.12	0.15	> 10
	Sodepur OC Patch (10 Ha)*		0.12	0.15	2
3	Narsamuda UG	265	0.148	0.19	> 10
4	Patmohana UG	544	0.12	0.12	> 40
	Patmohana OC Patch (7.5 Ha)*		0.10	0.10	1
5	Chinakuri-I UG	414	0.06	0.08	> 50
6	Chinakuri-III UG	216	0.15	0.20	> 25
	Chinakuri-III OC Patch (7.2)*		0.10	0.10	1
7	Bejdih UG	242	0.04	0.10	> 20
8	Methani UG	348	0.10	0.20	> 20
	Methani OC Patch (10.5 Ha)*		0.12	0.15	$1^1/_2$
9	Sheetalpur UG	315	0.12	0.50	> 30
	Total	4775.00	1.453	2.25	

The list of Proposed OC Patches shall be as follows:

Sl.	Opencast patches	Area of Patch (Ha)	Reserves (MT)	OB (Million M^3)	Normative Capacity (MTY)	Peak Capacity (MTY)	Life (Years)
1	Sodepur (R)	10	0.24	2.2	0.12	0.15	2
2	Chinakuri-III	7.2	0.1	0.7	0.1	0.1	1
3	Methani	10.5	0.16	3.6	0.12	0.15	1½
4	Patmohana	7.5	0.1	1.2	0.1	0.1	1
	Total	35.2	0.6	7.7	0.44	0.5	

Total area of Cluster No. 6 is 4775.0 Ha. Breakup of the various land-uses is as under:

Sl No	Land-use	Area (Ha)	%
1	Colliery Infrastructure	577.0	12.08

2	Tanks	245.0	5.13
3	Agriculture	1465.0	30.68
4	Danga	1236.0	25.88
5	Towns	488.0	10.22
6	Village/Basti	296.0	6.20
7	Road	105.0	2.20
8	Rail	217.0	4.54
9		146.0	3.06
Total		4775.0	100.00

vi. Sites are vulnerable to illegal mining.
vii. Small, uninhabited areas, free from surface features and do not involve shifting of any village.
viii. Only, land has to be acquired, compensation for which will be made as per the CIL's R & R Policy or that of the state, whichever is acceptable.
ix. Environmental impact for a short period – life of mines generally 1 – 2 years.
x. Quarries will be backfilled and biologically reclaimed with the help of experts and there will be no residual external OB dump. Bounded by Damodar River on the south.
xi. Separated from rest of the Raniganj Coalfield by non – mining areas on all other directions.
xii. Mines of other clusters at a distance of 2 – 3 kms from the cluster boundary.
xiii. Independent network of railway sidings inside cluster.
xiv. No transportation of coal by road outside cluster boundary.
xv. Separate drainage pattern.

Xvi Mine Wise Description are as follows:

Name of Mine	Date of Start	Leasehold Area	Highest Pre - 1994 Production (MT)	Present Production (MT) 2013-14	Proposed Capacity for EC (Peak)MTY
Dhemomain UG	Not Known	1623	0.41 in 1991-92	0.05	0.21
Sodepur UG	Not Known	808	0.27 in 1986-87	0.03	0.15
Narsamuda UG	Not Known	265	0.12 in 1992-93	0.07	0.19
Patmohana UG	Not Known	544	0.15 in 1975-76	0.07	0.12
Chinakuri-I UG	Not Known	414	0.32 in 1975-76	0.01	0.08
Chinakuri-III UG	Not Known	216	0.28 in 1976-77	0.07	0.20
Bejdih UG	Not Known	242	0.28 in 1976-77	Production suspended	0.10
Methani UG	Not Known	348	0.36 in 1975-76	-do-	0.20
Sheetalpur UG	Not Known	315	0.18 in 1973-74	Production suspended	0.50

Total area of Cluster No. 6 is 4775.0 Ha. Breakup of the various land-uses are as follows:

Sl No	Land-use	Area (Ha)	%
1	Colliery Infrastructure	577.0	12.08
2	Tanks	245.0	5.13
3	Agriculture	1465.0	30.68
4	Danga	1236.0	25.88
5	Towns	488.0	10.22
6	Village/Basti	296.0	6.20

7	Road	105.0	2.20
8	Rail	217.0	4.54
9		146.0	3.06
Total		4775.0	100.00

Post Mining Land use of Core Zone (Cluster Area):

S No.	Description	Land-use (Ha)				
		Plantation	Water Body	Public use	Undisturbed	Total
1	Top-soil Dump	-				
2	External Waste Dump	15.0	-	-	-	15.0
3	Excavation	35.2	-	-	-	35.2
4	Rail /Road	20.0		302.0	-	322.0
5	Built-up	384.0	-	-	400.0	784.0
6	Mine Infrastructure	97.0	-	-	480.0	577.0
7	Barren / Vacant land			-	1185.8	1185.8
8	Afforestation / Natural vegetation	146.0				146.0
10	Water bodies				245.0	245.0
11	Cultivable				1465.0	1465.0
	Total	697.20	-	302.0	3775.8	4775.0

Present and Proposed Land uses of the Cluster

S.No	Type Land Use	Present Mining Land Use (ha)	Land Use during Mining (ha)	Post- mining Land Use (ha)
1.	Excavation		35.2	
	Backfilled			35.2 & brought under Plantation
2.	External OB dump		15.0	15.0 To be brought under Plantation
3.	Unstable Locations	659.12	659.12 Rehabilitated outside cluster & area to be brought under Plantation	659.12 & brought under Plantation
4.	Service building/ mine infrastructure	577.0	577.0	480.0 (undisturbed) + 97.0 ha under plantation
5.	Rail & Road	322.0	302.0 (20 Ha for green belt)	302.0 (20 Ha under plantation)
6.	Habitation (including villages/basti& towns)	784.0	124.88	124.88
7.	Agriculture land	1465.0	1465.0	1465.0
8.	Forest land	-	-	-
9.	Plantation/Natural Vegetation	86.0	86.0	972.32
		60.0	60.0	
10.	River/nallah/pond/tank	245.0	245.0	245.0
11.	Barren land	1236.0	1185.8	1185.8
	Total	4775.0	4775.0	4775.0

xvi. **Transportation**:

a. In pit: Underground mine- coal tubs at the faces are being hauled by Tugger Haulage. Opencast mine-coal is proposed to be transported from pit to surface depot by tippers,
b. Surface to Siding: On the surface loaded mine cars are unloaded through power tippler from where coal is conveyed via belt conveyor to the coal depot for final despatch.
c. Loading to wagon at siding: Coal is loaded by payloaders into railway wagons.

Sl No.	Name of UG Mine within Cluster – 6	Capital Cost of the Mine (in Lakhs)
1	Sodepur UG	1975.00
2	Narsamuda UG	809.00
3	Dhemomain UG	3610.00
4	Patmohona UG	1080.00
5	Chinakuri – I UG	4480.00
6	Chinakuri – III UG	818.00
7	Bejdih UG	543.00
8	Methani UG	701.00
9	Sheetalpur UG	3321.00
Total		17337.00

xvii. **Cost**: Total capital cost of the project is Rs. 173. 37 Crore.CSR Cost Rs. 5.00 per tonne of coal produced. R&R Cost: An amount in excess of Rs. 533 Cr has been earmarked for the rehabilitation of the estimated no. of about 6818 households falling within this cluster to be carried out in two phases within 10 years.

xviii. There is **R & R** involved. Number of PAFs will be 6818.

xix. **Water body**: Damodar River, which forms the southern boundary and controls the drainage of the area. The cluster is drained by a few seasonal streams like SaluniJore and a number of ephemeral streams

xx. **Approvals**: All the existing mines within the cluster are taken over mines after nationalization. Application has been made to CGWA Board's for Ground water clearance. Mine Closure Plan approval in December, 2013.

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 land within the cluster boundary.

xxiii. Total **afforestation** plan shall be implemented covering an area of 313.2 ha at the end of mining. Density of tree plantation 1600 samplings per ha.

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

xxv. **Public Hearing** was held on 29.11.2013 at Chinakuri Guest House, ECL, Sodepur Area, P O-Sundarchak Dist- Burdwan, West Bengal. The issues raised in the PH includes drinking water; land subsidence; supply of electricity; intensive plantation programme; Eco Park; children's park; steps against illegal mines etc.

17.9.3 The EAC stipulated the following conditions:

i. Coal be transported by rail only.
ii. 3 tier green belt should be raised around the railway sidings and alsong road sides to prevent propagation of dust and noise.
iii. Action plan for Public Hearing alongwith the budgetary provision be provided.
iv. Stowing and depillaring shall be as per the recommendations of the DGMS.
v. The proponent must comply with the Raniganj Action Plan.

vi. Trees with deep rooted system should be planted so as to prevent soil erosion.
vii. River/nallahs should be desilted and restored back to functional state.
viii. Independent network of railway sidings inside cluster be developed. Railway sidings should be constructed at the earliestand till then proponent ay use mechanically covered trucks for transportation of coal.
ix. Wild life conservation plan be prepared and submitted with the approval of the State Govt.
x. Proponent may use high resolution image of all clusters for evaluating land use, plantation etc.
xi. No transportation of coal by road outside cluster boundary.
xii. Separate drainage pattern be provided.
xiii. Sand stowing must be used as recommended by CMPDI.
xiv. With mining to be extended to seams below the present levels of workings, these areas can be subjected to further subsidence in future. Action plan for prevention and mitigation of subsidence be prepared for implementation.
xv. The coal loading shall be by SILO.
xvi. The OC patches to be operated will be completely filled-up after exhaustion of reserves and reclaimed with plantation.
xvii. There shall be no residual OB dump after the mining.
xviii. After completion of mining activities, the subsided areas shall be graded and planted upon.
xix. An amount in excess of Rs. 533 Cr has been earmarked for the rehabilitation of the estimated no. of about 6818 households falling within this cluster to be carried out in two phases within 10 years.
xx. Proponent should plant additional 10 Ha/ year over the next 10 years at various locations in this cluster.
xxi. The unstable areas within the cluster will be brought under plantation after the population residing over these areas are rehabilitated under the Master plan for Raniganj Coalfield to be implemented by ADDA.
xxii. The land excavated after mining must come back to original condition for agricultural purpose.
xxiii. Coal transportation from mine to siding should be by conveyor belt.
xxiv. (Check) The proponent submitted that there is no wild life and therefore, there is no requirement of Wild Life management Plan. This need to be checked and the proponent need to clarify this issue to the MoEF.

17.9.4 The EAC has sought the following clarifications for further consideration:

i. Location of proposed OC patches with reference to seam outcrops.
ii. Action Plan for issues raised during the Public Hearing on Water supply arrangement to be made by laying pipelines; Mine discharge water to be diverted to surface ponds; Dust Pollution due to truck/dumper movement; Improvement of Road conditions; No entry for trucks/dumpers during school hours; Plantation over vacant land/subsided and settled land/backfilled quarries; Increase of production from UG mines;
iii. Allocation of funds under CSR.
iv. Details of backfilling of Quarries.
v. Strategies to manage illegal coal excavation.
vi. Provision of employment & livelihood.
vii. Cluster Specific CSR Programme.
viii. Ratification in post mining land use of the core zone.
ix. Stowing Arrangement details be subbbmitted.
x. Approximate reduction in fugitive dust emission due to Control Measures.

17.10 Cluster 7 (4 mixed mines of a prod. capacity of 0.58 MTPA normative to 0.74 MTPA peak in an ML area of 2313 ha) M/s Eastern Coalfields Ltd., located in Raniganj Coalfields, dist.

Burdwan, West Bengal- EC based on TOR granted dated 09.02.2011, amended on 25.02.2012.

17.10.1 The proposal is of Cluster 7 (Group of 4 mixed mines of a prod. capacity of 0.58 MTPA normative to 0.74 MTPA peak in an ML area of 2313 ha) M/s Eastern Coalfields Ltd., located in Raniganj Coalfields, dist. Burdwan, West Bengal.

17.10.2 The proponent made the presentation and informed that:

i. The project was accorded TOR vide letter no.J-11015/386/2010-IA.II(M)dated 09.02.2011. Revised TOR on 29.02.2012 & extension of TOR for one year granted on 11.03.2014.
ii. Details of Cluster 7: Group of 4 existing mines, 1 new opencast patches over existing underground workings proposed within the cluster. Present production from the cluster is 0.04 MTY. It is planned to achieve a peak capacity of 0.74 MTY from the existing as well as proposed patch in the cluster
iii. The latitude and longitude of the project are 23^0 41' N & 23^0 45' N and 86^0 56' E & 87^0 01' E respectively.
iv. There is no Joint Venture.
v. Coal Linkage:
vi. Details of ML area and life of mine:

Sl No	Name of Mines	Production Capacity (MTY)		Lease Hold Area (Ha)	Life of the mine (years)
		Normative	Peak		
1	Barmondia UG	0.020	0.030	665.00	>10
2	Chakballavpur UG	0.030	0.040	233.00	>10
3	Manoharbahal UG	0.030	0.040	735.00	>10
4	Bhanora West UG	0.10	0.13	680.00	>20
	Bhanora West OCP	0.40	0.50		3.5
	Total	0.58	0.74	2313.00	

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

Sl.No.	Land Use	Present Mining land use(in Ha)	Post Mining land use(in Ha)
1.	Colliery infrastructure	166.0	90.0
2.	Tanks	56.0	56.0
3.	Agriculture	1266.0	1266.0
4.	Danga	380.0	--
5.	Settlement	236	218.1
7.	Road	41.0	41.0
8	Rail	20.0	20.0
9.	Plantation	148.0	604.0
TOTAL		2313.0	2313.0

viii. Overview of mines in Cluster 7: 1 No of Opencast Patch has been proposed within leasehold of Bhanora West UG; Peak production from the cluster including OC patches would be 0.74 MTY.

ix. Details of Proposed OC Patch

Sl.	Opencast patches	Area of Patch (Ha)	Reserves (MT)	OB (Million M^3)	Normative Capacity (MTY)	Peak Capacity (MTY)	Life (Years)
1	Bhanora West OC Patch	50	1.25	11.2	0.4	0.5	3.5

x. Landonly, has to be acquired, compensation for which will be made as per the CIL's R & R Policy or that of the state, whichever is acceptable.
xi. Environmental impact for a short period – life of mines generally 1 – 2 years
xii. Quarries will be backfilled and biologically reclaimed with the help of experts and there will be no residual external OB dump.
xiii. Mine Wise Description

Name of Mine	Date of Start	Leasehold Area (Ha)	Pre - 1994 capacity (MT)	Present Production (MT) 2013-14	Administrative Area
Barmondia UG	Not Known	665.0	0.26 in 1975-76	Production suspended	Salanpur
Chakballavpur UG	1985-86	233.0	0.06 in 1987-88	0.005	
Manoharbahal UG	Not Known	735.0	0.16 in 1975-76	Production suspended	
Bhanora West UG	-do-	680.0	0.46 in 1976-77	0.04	Sripur

xiv. The Cluster will have drainage – the entire cluster is drained by a single seasonal nallah, Nunia and its tributaries, flowing through the cluster from North to South; The present coal dispatch from the 3 mines of Salanpur Area, viz. Barmondia UG, Chakballavpur UG and Manoharbahal UG is made to Bonjemehari Railway siding situated about 10 kms away by road; Another adjacent mine, viz. Bhanora West UG has been included and it is proposed to make the coal transportation to Railway siding available in this mine; This rationalisation is likely to reduce coal transportation to 3 – 4 kms, thereby, leading to lesser pollution
xv. Total area of Cluster No. 7 is 2313.0 Ha. Breakup of the various land-uses is as under –

Sl.No.	Type of land	Present Mining land use(in Ha)	%
1	Colliery infrastructure	166.00	7.18
2	Tanks	56.00	2.42
3	Agriculture	1266.00	54.73
4	Danga	380.00	16.42
5	Settlement	236.00	10.20
6	Road	41.00	1.78
7	Rail	20.00	0.87
8	Plantation	148.00	6.40
	TOTAL	2313.00	100

xvi. The OC patch to be operated will be filled-up after exhaustion of reserves and reclaimed with plantation. There will be no residual OB Dump
xvii. No further areas will be brought under subsidence. After completion of mining activities, the subsided areas will be graded and planted upon. 23.90 Ha of unstable areas falls within the cluster and it will be brought under plantation after the population residing over these areas are rehabilitated under the Masterplan for Raniganj Coalfield to be implemented by ADDA.

xviii. It is proposed to carry out plantation on about 450 ha in the next 8 to 10 years at various locations in this cluster.

xix. Present and Post Mining Land uses of the Cluster

S.N.	Land Use	Present Mining land use (in Ha)	Post Mining land use (in Ha)
1.	Colliery infrastructure	166.0	90.0
2.	Tanks	56.0	56.0
3.	Agriculture	1266.0	1266.0
4.	Danga	380.0	--
5.	Settlement	236	218.1
7.	Road	41.0	41.0
8	Rail	20.0	20.0
9.	Plantation	148.0	604.0
TOTAL		2313.0	2313.0

xx. The total estimated water requirement is 1484 m^3/day. The level of ground water ranges from 2.10m to 7.15 m.

xxi. The Method of mining: The method of mining shall be by Bord & Pillar method and by Shovel-Dumper combination.

xxii. The OC voids are proposed to be completely backfilled after extraction of available coal reserves and there will be no residual external dump. Total amount of OB to be produced and subsequently backfilled for both the proposed OC patch is 11.20 Mm^3.

xxiii. There will be no mine void as the quarry will be completely backfilled and leveled off. Total quarry area is Bhanora OC patch – 50.0 Ha. Backfilled quarry area of 50 Ha shall be reclaimed with plantation.

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

xxv. Transportation: Coal transportation in pit: Underground mine- coal tubs at the faces are being hauled by Tugger Haulage. Opencast mine- coal at surface is transported to the nearby coal depot by colliery dumpers through tippler; Surface to Siding: coal depot coal is disposed of by local dispatch using dumpers; Loading to Siding: Coal is loaded by payloaders into railway wagons

xxvi. There is **R & R** involved. There are 1126 PAFs.

xxvii. **Cost**: Total capital cost of the project is Rs. -- Crores. CSR Cost Rs. 5.00 per tonne of coal produced. R&R Cost: An amount in excess of Rs. 78.08 Cr has been earmarked for the rehabilitation of the estimated no. of about 1126 households(affected area within the cluster – 23.90 Ha) falling within this cluster to be carried out in two phases within 10 years. Environmental Management Cost (capital cost Rs.8429.39 Lakhs, Revenue cost Rs 405.00 Lakhs).

xxviii. **Water body**: The area is drained by Nunia nallah passing through the cluster and small streamlets draining into the Nunia nallah which flows southwards and eventually drains into Damodar river.

xxix. **Approvals**: Application has been made to CGWA for ground water clearance. All the existing mines within the cluster are taken over mines after nationalization. Mine Closure Plan approval in December, 2013.

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

xxxi. **Forestry issues**: There is no forest land within the cluster boundary. Total afforestation plan shall be implemented covering an area of 456.00 ha at the end of mining. Green Belt over an

area of --ha. Density of tree plantation 1600 saplings/ha.

xxxii. There are no court **cases/violation** pending with the project proponent.

xxxiii. **Public Hearing** was held on 27.12.2013 at Pachchgadiya Community Hall, Salanpur, West Bengal. Key issues raised during Public Hearing include Reduction in dust emission and noise pollution; Creation of village level committee for achieving minimum pollution; Treatment facilities for drinking water; Provision of Pressure Filters for mine water filtration at all four mines; Provision of Hand pumps, piped treated water supply and drinking water by tankers; Improvement of quality of surface water; Cleaning of ponds and wells; Repairing of drainage system; Co-ordination between local administration and ECL regarding local development projects; Definite plan for overall development of villages within 5 km radius; Stopping illegal mining in the area; Compensation against land

17.10.3. EAC has stipulated the following conditions:

i. Coal be transported by rail only.
ii. 3 tier green belt should be raised around the railway sidings and along road sides to prevent propagation of dust and noise.
iii. Action plan for Public Hearing alongwith the budgetary provision be provided.
iv. Stowing and depillaring shall be as per the recommendations of the DGMS.
v. The proponent must comply with the Raniganj Action Plan.
vi. Trees with deep rooted system should be planted so as to prevent soil erosion.
vii. River/nallahs should be desilted and restored back to functional state.
viii. Independent network of railway sidings inside cluster be developed. Railway sidings should be constructed at the earliest and till then proponent ay use mechanically covered trucks for transportation of coal.
ix. Wild life conservation plan be prepared and submitted with the approval of the State Govt.
x. Proponent may use high resolution image of all clusters for evaluating land use, plantation etc.
xi. No transportation of coal by road outside cluster boundary.
xii. Separate drainage pattern be provided.
xiii. Sand stowing must be used as recommended by CMPDI.
xiv. With mining to be extended to seams below the present levels of workings, these areas can be subjected to further subsidence in future. Action plan for prevention and mitigation of subsidence be prepared for implementation.
xv. The coal loading shall be by SILO.
xvi. The OC patches to be operated will be completely filled-up after exhaustion of reserves and reclaimed with plantation.
xvii. There shall be no residual OB dump after the mining.
xviii. After completion of mining activities, the subsided areas shall be graded and planted upon.
xix. An amount in excess of Rs. 533 Cr has been earmarked for the rehabilitation of the estimated no. of about 6818 households falling within this cluster to be carried out in two phases within 10 years.
xx. Proponent should plant additional 10 Ha/ year over the next 10 years at various locations in this cluster.
xxi. The unstable areas within the cluster will be brought under plantation after the population residing over these areas are rehabilitated under theMaster plan for Raniganj Coalfield to be implemented by ADDA.
xxii. The land excavated after mining must come back to original condition for agricultural purpose.
xxiii. Coal transportation from mine to siding should be by conveyor belt.

xxiv. (Check) The proponent submitted that there is no wild life and therefore, there is no requirement of Wild Life management Plan. This need to be checked and the proponent need to clarify this issue to the MoEF.

17.10.4. The EAC has sought the following clarifications for further consideration:

i. Action Plan for Issues raised during the Public Hearing such as Condition of surface drainage system, Drinking water supply; Treated water from OCP to be supplied ; backfilled quarries; Plantation over vacant land/subsided and settled land/ Dust Pollution due to truck/ dumper movement and blasting/running of adjacent OCP.
ii. Effective utilization of CSR fund and formation of committee including locals for monitoring of CSR activities and expenditure.
iii. Development works to be taken up.
iv. Cluster Specific CSR Programme.

17.11 Cluster no. 2 group of mines project (0.36 MTPA normative to 0.45 MTPA peak in an ML area of 1018 ha) of M/s Eastern Coalfield Limited, located at dist. Burdwan, West Bengal. - EC based on TOR granted dated 19.05.2011.

17.11.1 The proposal is of Cluster no. 2 (Group of three mixed mines) mine project (0.36 MTPA normative to 0.45 MTPA peak in an ML area of 1018 ha) of M/s Eastern Coalfield Limited, located at dist. Burdwan, West Bengal.

17.11.2 The proponent made the presentation and informed that:

i. The project was accorded TOR vide letter no. J-11015/37/2011-IA.II (M) dated 19.05.2011. Extension of TOR for one year granted on 11.03.2014.
ii. The latitude and longitude of the project are 23^0, 44' N & 23^0, 46' N and 86^0, 46' E & 86^0, 49', E respectively.
iii. There is no Joint Venture.
iv. Total leasehold area: 1018 Ha. Leasehold area of each mine in ha including life of mine are as follows:

Name of Mine	Lease Area (Ha)	NormativeProduction Capacity(MTY)	PeakProductionCapacity(MTY)	Life of mine (years)
Kumardhubi UG	667	0.08	0.10	20
Barmuri OC	59	0.18	0.23	10
Rajpura OC	292	0.10	0.12	05
Total	1018	0.36	0.45	

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

Sl. No.	Land-use	Present mining land use (in Ha)	Post Mining Land use (in Ha)
1	Mine Infrastructure	57.00	55.0
2	Water Bodies	31.30	42.8
3	Quarry & OB Dump	123.00	00
4	Agriculture	40.00	47.0
5	Plantation	11.50	401.4

6	Danga / Waste land	251.00	00
7	Settlement	282.60	282.6
8	Road	35.10	2.7
9	Rail (including Kumardhubi Railway Station)	186.50	186.5
TOTAL		1018.00	1018.00

iv. Total area of Cluster No. 2 is 1018.00 Ha. Breakup of the various land-uses is tabulated as under–

Sl. No.	Land-use	Area (Ha)	%
1	Mine Infrastructure	57.00	5.60
2	Water Bodies	31.30	3.07
3	Quarry & OB Dump	123.00	12.08
4	Agriculture	40.00	3.93
5	Plantation	11.50	1.13
6	Danga	251.00	24.66
7	Settlement	282.60	27.76
8	Road	35.10	3.45
9	Rail (including Kumardhubi Railway Station)	186.50	18.32
TOTAL		1018.00	100.00

v. Post Mining Land use of Core Zone (Cluster Area)

S No.	Description	Land-use (Ha)				
		Plantation	Water Body	Public use	Undisturbed	Total
1	Top-soil Dump	-				
2	Avenue Plantation	41	-	-	-	41
3	OB dump & Excavation	123	42.8	-	-	165.8
4	Road	-		2.7	-	2.7
5	Built-up				282.6	282.6
6	Mine Infrastructure	2		55		57
7	Rail line with Stn.			-	186.5	186.5
8	Afforestation / Natural vegetation	189.9				189.9
9	Subsided & Green Belt	45.5				45.5
11	Cultivable			47.0		47.0
	Total	401.40	42.80	104.70	469.10	1018.00

vi. The total estimated water requirement is 2310 m^3/day. The level of ground water ranges from 3.44 m to 5.07 m.

vii. The Method of mining: The method of work is opencast method with shovel-dumper combination and the under-ground is by Bord and Pillar Method.

viii. There is one external OB dump with Quantity of Mbcm in an area of 123.0ha with height of 60.0 meter above the surface level and -- internal dump with Quantity of 5.046 Mbcm in an area of 59.0 ha.

ix. A void of 11.5 ha at a depth of 20.0 m is proposed to be converted into a water body.
x. The seasonal data for ambient air quality has been documented and all results at all stations are within prescribed limits.
xi. **Transportation**: In pit: Underground mine-coal tubs at the faces are being hauled by Tugger Haulage Opencast mine-coal is proposed to be transported from pit to surface depot by tippers. The loading to siding by pay loaders into railway wagons
xii. There is no **R & R** involved.
xiii. **Cost**: Total capital cost of the project is Rs. 6655.42 Lakhs. Rs. 5.00 per tonne of coal produced is kept for CSR activities. Environmental Management Cost (capital cost Rs 595.00 Lakhs, annual Revenue cost Rs 634.27 Lakhs).
xiv. **Water body**: On the south side of NH2 there is a seasonal stream named Barmuri Jore which flows from north to south and merges into Barakar River. Barakar River and Barmuri Jore along with its tributaries control the main drainage of the mine.
xv. **Approvals**: Application has been made to CGWA for ground water clearance. All the existing mines within the cluster are taken over mines after nationalization. Mine Closure Plan approval in December, 2013
xvi. **Wildlife issues**: There are no national Parks, wildlife sanctuary, biosphere reserves found in the 10 km buffer zone.
xvii. **Forestry issues**: There is no forest land within the cluster boundary.
xviii. Total **afforestation** plan shall be implemented covering an area of 401.4 Ha (out of which 189.9 Ha is already reclaimed and planted by ECL) at the end of mining. Density of tree plantation 1600 saplings/ha. void 11.5 Ha at a depth of 20.0 m which is proposed to be converted into water body.
xix. There are no court **cases/violation** pending with the project proponent.
xx. **Public Hearing** was held on 09.09.2013 at Officers club, Mugma Area, Dhanbad, Jharkhand. The issues raised in the PH includes water pipeline; dust pollution; water sprinkling; poor voltage and overhead lines etc.

17.11.4 The EAC has sought the following clarifications for further consideration:

i. Clarification on the issues raised during Public Hearing such as Provision of Water Supply to Villages, Dust suppression, Improvement of road condition, Cutting down of trees by villagers; Plantation over backfilled areas, Development of adjacent areas be provided.
ii. Layout of existing OC mines be also presented

17.11.5 Further, the EAC has stipulated the following conditions:

i. Coal be transported by rail only
ii. 3 tier green belt should be raised around the railway sidings and alsong road sides to prevent propagation of dust and noise.
iii. Action plan for Public Hearing alongwith the budgetary provision be provided
iv. Stowing and depillaring shall be as per the recommendations of the DGMS
v. The proponent must comply with the Raniganj Action Plan.
vi. Trees with deep rooted system should be planted so as to prevent soil erosion.
vii. River/nallahs should be desilted and restored back to functional state
viii. Independent network of railway sidings inside cluster be developed. Railway sidings should be constructed at the earliest and till then proponent ay use mechanically covered trucks for transportation of coal.
ix. Wild life conservation plan be prepared and submitted with the approval of the State Govt.
x. Proponent may use high resolution image of all clusters for evaluating land use, plantation etc
xi. Separate drainage pattern be provided.

xii. Sand stowing must be used as recommended by CMPDI.
xiii. With mining to be extended to seams below the present levels of workings, these areas can be subjected to further subsidence in future. Action plan for prevention and mitigation of subsidence be prepared for implementation.
xiv. The OC patches to be operated will be completely filled-up after exhaustion of reserves and reclaimed with plantation.
xv. There shall be no residual OB dump after the mining.
xvi. After completion of mining activities, the subsided areas shall be graded and planted upon.
xvii. An amount in excess of Rs. 533 Cr has been earmarked for the rehabilitation of the estimated no. of about 6818 households falling within this cluster to be carried out in two phases within 10 years.
xviii. Proponent should plant additional 10 Ha/ year over the next 10 years at various locations in this cluster.
xix. The unstable areas within the cluster will be brought under plantation after the population residing over these areas are rehabilitated under theMaster plan for Raniganj Coalfield to be implemented by ADDA.
xx. The land excavated after mining must come back to original condition for agricultural purpose.
xxi. Coal transportation from mine to siding should be by conveyor belt.
xxii. (Check) The proponent submitted that there is no wild life and therefore, there is no requirement of Wild Life management Plan. This need to be checked and the proponent need to clarify this issue to the MoEF.

17.12 Cluster 8 (consisting of 7 mines of a combined rated capacity of 1.279 MTPA with a peak prodn. of 2.452 MTPA in an ML area of 8281 ha) of M/s Eastern Coalfield Limited, located in Raniganj Coalfields, dist. Burdwan, West Bengal – Validity of TOR.

17.12.1 The EAC after taking into account the submission of the proponent that the Public Hearing could not be held due to election and therefore requested for extension of validity of the ToR, the Committee has recommended for ToR validity.

17.12.2 The Committee has recommended the extension of validity of TOR by one year i.e. upto 20.07.2015

17.13 Cluster 12 comprising of 19 mixed mines project (27.16 MTPA normative to 31.83 MTPA peak in an ML area of 11164 ha of M/s Eastern Coalfield Limited, located in Raniganj Coalfields, in Tehsil Haripur Block, dist. Burdwan, West Bengal- EC based on TOR granted dated 15.06.2011, amended on 02.11.2011.

17.13.1 The project was accorded TOR vide letter no. J-11015/76/2011-IA.II (M) dated 15.06.2011. Revised TOR on 02.12.2011 and extension of TOR for one year granted on 11.03.2014.

17.13.2 The proponent has submitted clarifications as the Total area shown in TOR is 13167 Ha which is a typographical error. The actual area is 14047 Ha. The area shown in Agenda is 11164 Ha which is taken from the un-revised stage. The integrated Coal Washery Project with Sonepur Bazari OCP has been dropped.

17.13.3.The proponent made the presentation and informed that:

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i. The latitude and longitude of the project are 23^0, 37', 30" N & 23^0, 45' N and 87^0, 11', 35" E & 87^0, 24', 05" E respectively.

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

S.No	Type Land Use	Present Mining Land Use (ha)	Land Use during Mining (ha)	Post- mining Land Use (ha)
1	Excavated	445.59	2325.04	
	Backfilled	90.00	90.00 (Plantation)	1856.54 (Plantation)
2	Overburden / Dumps	101.72	404.74	404.74 (Plantation)
3	Infrastructure (Workshop, Administrative Building, Mineral Storage etc.)	777.42	873.72	873.72 (500.00 Ha under Plantation)
4	Roads	81.21	107.24	107.24
5	Railways	151.00	369.69	369.69 (300.00 Ha under Plantation)
6	Green Belt / plantation	309.19	364.57	364.57
7	Forest Land	298.80	11.00	11.00
8	Danga	1002.08	170.26	170.26
9	Cultivable	8221.75	4190.57	4190.57
10	Water Bodies	527.48	421.91	980.41
11	Subsided	427.00	3098.80	3098.80 (Plantation)
12	Villages / Built -up	1613.76	1619.46	1619.46
	Total	14047.00	14047.00	14047.00

Sl No.	Name of the Mine	Lease Area (Ha)	Normative Capacity (MTY)	Peak Capacity (MTY)	Life (Years)
1	Pandaveswar UG	483	0.14	0.18	20
	Pandaveswar OC Mine (170 Ha)**		1.20	1.50	6
2	Dalurband OC & UG	902	0.25	0.33	> 50
3	Manderboni UG	467	0.13	0.17	13
4	South Samla UG	558	0.08	0.11	30
	Purushottampur OC Patch (66 Ha)		1.00	1.30	4
5	Madhaipur UG	622	0.16	0.21	28
	Madhaipur OC Patch (64 Ha)**		0.60	0.80	4
6	Nutandanga UG	543	0.10	0.12	20
7	Kendra UG	459	0.06	0.10	> 25
8	Samla UG	676	0.10	0.12	> 25
	Samla OC Mine (146 Ha)**		0.60	0.80	5
9	Sonepur Bazari OC*	2405	8.00	8.00	> 25
	Integrated Coal Washery (8.0 MTY, 15 Ha)**		Project Dropped		> 25
10	Kumardihi B UG*	355	0.20	0.42	> 25
	Nakrakonda B OC* (96 Ha)		1.00	1.50	4

	Nakrakonda B OC (Extension) (27 Ha)			0.54	0.54	1
	Kumardihi B OC Patch (8 Ha)**			0.10	0.14	4
11	Nakrakonda UG*		287	0.90	1.20	> 25
12	Jhanjra UG*	Expansion proposed	1520	3.50	3.50	> 25
13	Tilaboni UG*		869	1.86	2.14	> 25
14	Shyamsundarpur UG*		533	0.50	0.90	> 25
15	Bankola UG*		830	0.40	0.57	> 25
	Bankola OC Patch (7 Ha)**			0.20	0.26	2
16	Kottadih UG & OC*		770	3.00	4.00	> 25
17	Kumardihi A UG*		457	1.00	1.20	> 25
	Kumardihi A OC Patch (8 Ha)**			0.20	0.26	3
18	Manderboni Extension/ Rangamati A UGP**		817	0.855	0.983	> 25
19	Madhaipur Extension / Rangamati B UGP**		494	0.48	0.48	> 25
	Total		14047	27.16	**31.83**	

iii. Existing & Proposed OC Mines/patches

Sl No	Name of Patch/Mine	Total area (Quarry + OB Dump) (Ha)	Mineable Reserves (MT)	Volume of OB to be generated (Million M^3)	Normative Production Capacity (MTY)	Peak Production Capacity (MTY)	Life in years
Existing OC Operations							
1	Sonepur Bazari OC	1870	221.78	1130.45	8.00	8.00	29
2	Kottadih OC	485	90.0	300.00	3.00	3.00	20
3	Dalurband OC	80	1.0	5.0	0.15	0.18	7
4	Nakrakonda OC	127	4.83	26.0	1.00	1.50	4
New OC Proposals							
1	Pandaveswar OC Mine	170	7.1	81.0	1.20	1.50	6
2	Madhaipur OC Patch	64	1.8	6.3	0.60	0.80	4
3	Samla OC Mine	146	2.9	20.3	0.60	0.80	5
4	Kumardihi B OC Patch	8	0.4	1.6	0.10	0.14	4
5	Bankola OC Patch	7	0.4	1.25	0.20	0.26	2
6	Kumardihi A OC Patch	8	0.6	2.0	0.20	0.26	3
7	Nakrakonda Extension OC Patch	27	0.54	5.5	0.54	0.54	1
8	Purushottampur	66	4.0	38.0	1.00	1.30	4

	OC Patch						
		3058	335.35	1617.4	16.59	18.28	

iv. The Cluster will be having unique drainage system. The mines are drained by Tumni Nallah originating on the western boundary and flowing eastwards through the cluster. Since no boundaries, geographical or otherwise exist on the south western side, the mines have been clustered under the concept of coal offtake by including mines which are linked to Railway sidings falling inside the cluster boundary. Thus, entire coal transportation is restricted within the cluster boundary. Two new railway sidings are proposed – One at Sonepur – Bazari OCP and the other at Jhanjra UG. Tilaboni UG will be linked to a branch – off from Kumardih A. Madhaipur Railway siding to be augmented to handle coal from proposed Rangamati – A & Rangamati – B UGPs. Belt conveyor of 5 kms is proposed for Rangamati – A UGP to Madhaipur Railway Siding

v. The status of EC for the Mines in Cluster are as follows:

Sl.No	Name of the Project	Date of approval	Capacity MTY	Production 2013 – 14(MT)
1	Kottadih UGP	8.1.86	1.00	0.28
2	Sarpi UGP	12.6.86	0.90	0.69
3	Kumardih Reorganisation Project (Kumardih – A)	24.6.86	1.20	0.09
4	Kottadih OCP	9.7.86	3.00	1.70
5	Nakrakonda UG	9.1.92	1.20	0.03
6	Tilaboni UG	29.10.92	1.17	0.13
7	Jhanjra UG	29.3.93	3.50	1.10
8	Nakrakonda B OCP (within leasehold of Kumardih B UG)	27.12.07	1.50	0.26 (Exhausted)
9	SonepurBazari Combined OCP	20.6.08	8.00	6.40
10	Bankola UGP	2.7.08	0.57	0.17
11	Kumardih 'B' UGP	31.10.08	0.42	0.06
			22.46	10.91

vi. Expansion Proposals

Name of Mine	Present Peak Capacity	Present Area	Proposed Peak Capacity	Proposed Area
Jhanjra UGP	3.50 MTY	1261 Ha	3.50 MTY	1520 Ha
Tilaboni UGP	1.17 MTY	436 Ha	2.14 MTY	869 Ha

Mixed (UG & OC) Mining Proposals

Name of Mine	Present Peak Capacity (UG)	Peak Capacity of Proposed OC Patch	Area of Proposed Patch within mine leasehold	Life of OC Patch
Bankola UGP	0.57	0.26 MTY	7 Ha	2 Years
Kumardih A	1.20	0.26 MTY	8 Ha	3 Years
Kumardih B	0.42	0.14 MTY & 0.54 MTY	8 Ha & 27 Ha	4 Years &1 year

vii. Land Acquisition Details for whole Cluster

Sl. No.	Purpose	Area acquired (Ha)				Area to be acquired (Ha)			
		Government		Private		Government		Private	
		Forest	Others	Agri.	Others	Forest	Others	Agri.	Others
1	Excavation		131.20	366.24	38.15	32.65		1578.40	269.05
2	Overburden / Dumps		16.28	85.44				150.00	153.02
3	Infrastructure (Workshop, Administrative Building, Mineral Storage, Rehab Site.)		603.92		173.50			96.30	
4	Roads		81.21					26.03	
5	Railways		151.00					218.69	
6	Green Belt / plantation		309.19					55.38	
7	Subsidence	90.3	437.20	281.40	422.10	255.80		1096.68	515.32
TOTAL		90.3	1730.00	733.1	633.8	288.5		3221.48	937.4
		3187.13 Ha				4447.32 Ha			

viii. The status of Forest Clearance Applications are as follows:

#	Name of Mine	Project Area	Forest Land within Project Area	Forest Land to be diverted	Application made for	Status of Application
1	Jhanjra UGP (Expansion)	1261 Ha + 259 Ha (additional)	90.3 Ha (already diverted in 1992) + 110 Ha	99.0 Ha	78.0 Ha	Made on 28.09.12, forwarded to MoEF, New Delhi after completion of all processes on 4.06.14
2	Tilaboni UGP (Expansion)	436 Ha + 433 Ha (additional)	64.8 Ha (including 23.11 Ha of Social Forestry)	64.8 Ha		Application under preparation for submission
3	Rangamati A UGP	817 Ha	91.0 Ha	91.0 Ha		-do-
4	Sonepur – Bazari OCP	2404.85 Ha	32.65 Ha	32.65 Ha	32.65 Ha	Made on 18.07.12, forwarded to MoEF BBS after completion of all processes on 19.06.14

ix. Area of the ClusterTotal area of Cluster No. 12 is 14047.00 Ha. Breakup of the various land-uses is tabulated as under –

Sl No	Land-use	Area (Ha)	%age
1	Mine Infrastructure	2330.00	16.59
2	Quarry and O B Dump	674.00	4.80
3	Cultivable	5842.00	41.59
4	Water bodies	480.00	3.42
5	Forest Land	298.80	2.13
6	Plantation	1053.00	7.50
7	Danga	948.00	6.75
8	Village	970.00	6.91
9	Roads & Railway	90.00	0.64
10	Built-up Area	800.00	5.70
11	Others	561.20	4.00
Total		14047.00	100.00

x. Post Mining Land use of Core Zone (Cluster Area)

S No.	Description	Land-use (Ha)				
		Plantation	Water Body	Public use	Undisturbed	Total
1	Excavated	-	-	-	-	-
2	Backfilled	1856.54	-	-	-	1856.54
3	Overburden / Dumps	404.74	-	-	-	404.74
4	Infrastructure (Workshop, Administrative Building, Mineral Storage etc.)	500.00	-	373.72	-	873.72
5	Roads	-	-	107.24	-	107.24
6	Railways	300.00		69.69	-	369.69
7	Green Belt / Plantation	55.38	-	-	309.19	364.57
8	Forest Land	-	-	-	11.00	11.00
9	Danga	-	-	-	170.26	170.26
10	Cultivable	-	-	-	4190.57	4190.57
11	Water Bodies	-	452.93	-	527.48	980.41
12	Subsided	3098.80	-	-	-	3098.80
13	Villages / Built -up	-	-	-	1619.46	1619.46
	Total	6215.5	452.93	550.65	6828.00	14047.00

xi. The mineable reserve 1140 MT.

xii. The total estimated water requirement is 26767 m^3/day (Total water demand for all mines). The level of ground water ranges from pre monsoon season 0.85 to 12.08 m; post monsoon season 1.17 to 16.70 m.

xiii. The Method of mining: The proposed OC patch is to adopt shovel-dumper combination for extraction of coal and removal of OBR. The methods of mining adopted for UG in the two seams are Bord& Pillar method

xiv. For coal evacuation from underground, belt conveyor system of transport has been proposed. Underground bunkers as well overhead steel hoppers have also been proposed for proper storage & handling.

xv. Details of OB Dumps: Sonepur-Bazari OCP- Out of total estimated OB removal of 1166.54 M Cu.m, about 873 M Cu.m would be accommodated within the OCP as internal dump. Balance 293 M Cu.m of OB would be accommodated in the external dumps, which would ultimately be merged with the internal dumps. Total capacity of external dump after compaction will be sufficient enough to accommodate 293 M Cu.m of OBR. All the dumps have been proposed to be heightened up to 60 m above immediate ground level.

xvi. The final mine void would be in -- Ha with depth of -- m. and the Total quarry area is 2325 Ha. Backfilled quarry area of 1856 Ha shall be reclaimed with plantation. A void of 453 ha with depth of 20 - 30 m which is proposed to be converted into a water body

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

xviii. **Transportation**: Coal transportation in pit by Underground mine- coal tubs at the faces are being hauled by Tugger Haulage; Opencast mine- coal at surface is transported to the nearby coal depot by colliery dumpers through tippler , Surface to Siding by coal depot coal is disposed of by local dispatch using dumpers.

xix. There is **R & R** involved. There are 716 PAFs.

xx. **Cost**: CSR Cost: Provisions for CSR under Community Development have been made @ Rs. 5.00 per tonne of coal produced. This works out to about Rs. 6.65 Cr per annum at 13.30 MTY of coal production (present production from the cluster is only 12.06 MTY). R&R Cost 5595.55 Lakhs/year. Environmental Management Cost (capital cost Rs. 77.32 crores, annual recurring cost Rs 61.4084 crores).

xxi. **Water body**: Ajoy River, flowing along the northern boundary of the cluster, controls the main drainage of the cluster. There is a seasonal Tumninullah which flows from west to east with its tributaries and ultimately drains in Ajoy, controls a significant portion of the drainage of the cluster

xxii. **Approvals**: Application has been made to CGWA for ground water clearance. Mining plan: Most of the existing mines are taken over mines after nationalization. The new projects planned after nationalization within the cluster are having environmental clearance after having been approved by the board. 2 new underground projects are awaiting project approval. Mine Closure Plan approval on December, 2013

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

xxiv. **Forestry issues**: The total forest land falling in the cluster is 298.8 Ha excluding 90.3 Ha forest land diverted for caving at Jhanjra UG. Further diversion of forest land is required for Jhanjra UGP (99 Ha), Tilaboni UGP (42.69 Ha FL + 23.11 Ha Social Forestry), Manderboni Extension / Rangamati A UGP (91 Ha) and SonepurBazari OCP (32 Ha)ie total FL to be diverted for mining in the cluster is 287.80 Ha. Remaining 11 Ha forest land will remain undisturbed.

xxv. Total **afforestation** plan shall be implemented covering an area of 6215.5 ha at the end of mining. Green Belt over an area of 364.57 ha. Density of tree plantation 1600 trees/ ha of plants.

xxvi. There are no court **cases/violation** pending with the project proponent.

xxvii. **Public Hearing** was held on 07.03.2014, at Haripur Community Hall at Chatadanga, Opposite of Haripur Gram Panchayat Office, Dist – Burdwan, West Bengal. The issues raised in the PH includes employment of the local unemployed youths in Sonepur Bazari Colliery; cracked /damage due to vibration; generated from mine blasting; dust suppression & development of intensive greeneries; street lighting; water supply; playground; transport facility for school students, medical camp etc.

17.13.4. EAC has stipulated the following conditions:

i. Coal be transported by rail only
ii. 3 tier green belt should be raised around the railway sidings and along road sides to prevent propagation of dust and noise.
iii. Action plan for Public Hearing alongwith the budgetary provision be provided
iv. Stowing and depillaring shall be as per the recommendations of the DGMS
v. The proponent must comply with the Raniganj Action Plan.
vi. Trees with deep rooted system should be planted so as to prevent soil erosion.
vii. River/nallahs should be desilted and restored back to functional state
viii. Independent network of railway sidings inside cluster be developed. Railway sidings should be constructed at the earliest and till then proponent ay use mechanically covered trucks for transportation of coal.
ix. Wild life conservation plan be prepared and submitted with the approval of the State Govt.
x. Proponent may use high resolution image of all clusters for evaluating land use, plantation etc
xi. No transportation of coal by road outside cluster boundary
xii. Separate drainage pattern be provided.
xiii. Sand stowing must be used as recommended by CMPDI.
xiv. With mining to be extended to seams below the present levels of workings, these areas can be subjected to further subsidence in future. Action plan for prevention and mitigation of subsidence be prepared for implementation.
xv. The OC patches to be operated will be completely filled-up after exhaustion of reserves and reclaimed with plantation.
xvi. There shall be no residual OB dump after the mining.
xvii. After completion of mining activities, the subsided areas shall be graded and planted upon.
xviii. An amount in excess of Rs. 533 Cr has been earmarked for the rehabilitation of the estimated no. of about 6818 households falling within this cluster to be carried out in two phases within 10 years.
xix. Proponent should plant additional 10 Ha/ year over the next 10 years at various locations in this cluster.
xx. The unstable areas within the cluster will be brought under plantation after the population residing over these areas are rehabilitated under theMaster plan for Raniganj Coalfield to be implemented by ADDA.
xxi. The land excavated after mining must come back to original condition for agricultural purpose.
xxii. The proponent submitted that there is no wild life and therefore, there is no requirement of Wild Life management Plan. This need to be checked and the proponent need to clarify this issue to the MoEF.
xxiii. The EAC has suggested that a sub-Committee shall visit all the clusters.

17.13.5 The EAC has sought the following clarifications for further consideration:

i. Action Plan for Issues raised during the Public Hearing such as Provision of Water Supply to Villages; Dust suppression; Spillage of coal during transit – obnoxious emissions from dumpers; Improvement of road condition; Damage to houses due to ground vibration generated from mine blasting in OC mines; Backfilling of OC voids after exhaustion and reclamation – fencing of quarries to prevent accidents; Intensive Plantation programme – plantation of fruit bearing trees.
ii. Arrangement of street lighting; Arrangement of solar lighting; Repairing of local village roads, schools; Providing transport facility for school students of villages; Proper utilization of CSR fund for development; Holding medical camps; Employment to local youth etc.
iii. Cluster Specific CSR Programme.
iv. Layout of existing OC mines.
v. Action plan for measures for improving soil fertility/acidity/alkalinity.

vi. Proponent need to correct the soil texture classification.
vii. Examine the feasibility of combine coal transportation among the clusters and also constructing a SILO.

17.13.6 The EAC has observed from the clusters of M/s Eastern Coalfield Limited and is of the view that CIL and its subsidiaries are coming frequently for enhancement of the production of coal with small quantities, although following the stipulated procedures. EAC is of the view that the proponents are only wasting time and energy for not attempting for higher production. EAC has recommended that the MoEF may take up the matter with MoC advising for advising the coal subsidiaries to submit proposals with high production value. Further non-submission of information in time also delays the approval of EC and thereby affecting national production of coal for power generation. The proponent must explore the maximum potential of the coal field and do the mining with most modern technology to maximize the technological advantage to enhance production.

17.13.7 Further, with regard to issue of cluster approach and particularly where the proponent has been requesting that in a cluster of mines:

i. if one mine produces less and the other(s) produces more but within the stipulated production limit of the cluster;
ii. If one mine is closed and the other mines produces more but within the stipulated production limit of the cluster
iii. There should be interplay of production among mines in a cluster but within the stipulated production limit of the cluster

The EAC is of the view that in such events, the proponent should prepare the EIA/EMP report with such scenarios so as to predict the environmental impact and enable the EAC to take an informed decision.

17.14. Giral Lignite Mines project (1 MTPA in an ML area of 2655.70 ha) M/s Rajasthan State Mines & Minerals Ltd., District Barmer, Rajasthan – TOR.

17.14.1 Giral Lignite Mines project (1 MTPA in an ML area of 2655.70 ha) M/s Rajasthan State Mines & Minerals Ltd., District Barmer, Rajasthan.

17.14.2 The proponent made the presentation and informed that:

i. The EC for expansion of production from 0.3 MTPA to 1.0 MTPA was granted by MoEF vide letter no. J-11015/163/2005-IA-II(M) dated 3.01.2006. The project was earlier accorded EC by the MoEF vide letter no. J-11015/153/94-IA-II(M) dt.12.12.1994. Both the ECs were accorded under old EIA Notification, 1994 & therefore , for renewal of Mining lease, which is due on 20.12.2014, fresh EC from MOEF is required. .
ii. The latitude and longitude of the project are N-26^{o} 01' 24''- 26 ^{o}05'16'' and E-71 ^{o} 13'47'' -71 ^{o} 16'43'' respectively.
iii. Joint Venture: There is no joint venture.
iv. Coal Linkage: Linked with 125 MW Power plant of RVUNL(State PSU) at Giral, Barmer, Rajasthan.
v. The land usage of the project will be as follows:

Pre-Mining: 2655.70 ha

Post- Mining: 1216.202 ha.

Core area: Mine Excavation: 883.00 ha.; Dump area: 157.28 ha.; Top soil: 12.00 ha ; Infrastructure : 3.51 ha.; Power plant: 85.412 ha; Green belt: 75.00ha,; Intervening area:1439.498 ha(Undisturbed)

vi. The total geological reserve is 56.368 MT. The mineable reserve 37.510 MT, extractable reserve is 33.392 MT (with 5% Mining losses). The per cent of extraction would be 95 %.

vii. The coal grade is 2010-4060 Kcal/kg. The stripping ratio is 1:13.50. The average Gradient is Gentel dips (01o- 03 o). There will be 1-5 (3 Horizons) seams with thickness ranging upto 0.3 m to 3.20 m.

viii. The total estimated **water requirement** is 190 m3/day. The level of ground water ranges from 90-110 meter BGL.

ix. The Method of mining would be by Mechanised Opencast.

x. There are 3 external OB dump with Quantity of 386.855 Mbcm in an area of 157.28 ha with height of 30 meter above the surface level and 3 internal dump with Quantity of 4636.95 Lakhs m3 in an area of 660.10 ha.

xi. The final mine void would be in 222.90 Ha with depth of 44.0-80.0 m and the Total quarry area is 883 Ha. Backfilled quarry area of 660.10 Ha shall be reclaimed with plantation. A void of 222.90 ha with depth varying between 44 to 80.0 m is proposed to be converted into a water body.

xii. The **life of mine** is 35 years as per Mining Plan & 27 years from 1.4.2014.

xiii. **Transportation**: Coal transportation in pit by dumper, Surface to Siding by dumper and loading to siding by dumper.

xiv. There is **R & R** involved. There are 150 PAFs.

xv. **Cost**: Total capital cost of the project is Rs. 216.82 Crore (revised as on 31.03.2014). CSR Cost Rs. Sofar, RSMML has incurred an expenditure of Rs. 324 lakhs. R&R Cost Rs. 78.13. Environmental Management Cost Rs. 268.36 Lac (as per estimates of 2004-05).

xvi. **Water body**: There is no river/Nallha flowing near or adjacent to the proposed mine.

xvii. **Approvals**: Ground water extraction is not envisaged; 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: 1st Mining Plan (0.3 MTPA) was approved by MOC vide their letter no. 48024/1/92-CML, dt. 21-03-1994. 2nd Mining Plan (1.00 MTPA.) was approved by MOC vide letter no. 48024/3/2003-Lig dt 13/14-01-2005 for expansion from the earlier 0.3 MTPA to 1.00 MTPA. Mine Closure Plan: The Mine Closure Plan was submitted in July, 2012 to the Ministry of Coal. A presentation of Mine Closure Plan was held on 20.2.2013 in the Ministry of Coal. Reply about compliances to the observations made about Mine Closure Plan by Standing committee vide their letter dt. 09.05.2013 has been re-submitted to Ministry of Coal on 13.06.2014.

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

xix. **Forestry issues**: No forest area involved for mining.

xx. Total **afforestation** plan shall be implemented covering an area of 892.38 ha at the end of mining. Green Belt over an area of 75.00 ha. Density of tree plantation 1000 trees/ ha of plants.

xxi. There are no court **cases/violation** pending with the project proponent.

17.14. 3. The Committee, after detailed deliberations, recommended the project for granting ToR with standard ToRs.

17.15 Nigahi Opencast Expansion Coal Mining Project of (15 MPTA to 18.75 MTPA in an ML area of 3036.40 ha) of M/s Northern Coalfields Ltd., Dist. Singrauli, Madhya Pradesh - EC under 7(ii) of EIA Notification 2006.

17.15.1 The proposal is of Nigahi Opencast Expansion Coal Mining Project of (15 MPTA to 18.75MTPA in an ML area of 3036.40 ha) of M/s Northern Coalfields Ltd., Dist. Singrauli, Madhya Pradesh. The proposal was last considered in 7th EAC meeting held on 12th -13th December, 2013. The Committee sought the following information for further consideration of the proposal:

i. The project is within the CEPI area of Singrauli on which the moratorium has been re-imposed from 17.09.2013.
ii. As per the Compliance Report of Regional Office many conditions stipulated in earlier EC have not been complied with. The Project Proponent shall submit the detailed action plan along with the budgetary provision duly certified by Regional Office of the MOEF.
iii. The Committee noted with concern that the EC was granted on 08.05.2007 and even after six years many conditions have not been complied with. For example, the project authorities are supposed to carry out a study for zero discharge from NCL mines by considering various options for using excess treated effluents including artificial recharge and the report on the same shall be submitted to this Ministry within six months of issue of this clearance letter. The proponent has informed that the study has been assign to CMPDI and is under progress. The Committee has observed that the proponent has not made any serious efforts for compliance to the conditions. The Committee further suggested that MOEF may write to the CMD and the Coal India in this regard.
iv. The information provided in the checklist with regards to details of internal dumps be checked for its correctness.
v. The satellite image of the land use pattern be submitted along with analytical report & deviations from approved plan, if any.
vi. Detailed report on compliance on Forest Clearance in respect of 874 ha. and status of FC application in respect of the remaining area.
vii. Revised calendar plan for production be submitted.

17.15.2 The proponent made the presentation and further informed that:

i. The moratorium has been lifted vide MOEF & CC letter no.]-11Oi3/5/2010-IA,[[(I) dated 10.06.2014 from Singrauli area .
ii. The detailed action plan along with the budgetary provision for EC conditions of Nigahi OCP, for "partly/not complied" as per compliance report of Regional Officer, have been sent to Regional Office, MoEF Bhopal requesting him for certification and forwarding the same to MoEF, New Delhi.
iii. Study of zero discharge for Nigahi mine has been conducted and the report submitted to Regional Office, MoEF at Bhopal. Further, the zero discharge has also been implemented by construction of reservoirs and re-circulating system.
iv. The satellite image of the land use pattern along with analytical report has been submitted to Regional Officer MoEF, Bhopal. The satellite data of 2008 to 2012 indicated that plantation carried out on backfilled area,OB dumps as well as under social forestry in Nigahi mine of NCL has increased from 8.4 Sq. Km to 9.96 Sq. Km in span of four years. This increase of 1.56 Sq.

Km (i.e. 18.57 %) area of plantation in four year's time is due to the efforts of the Project towards mine land reclamation.

v. The revised calendar plan for production has been submitted.

17.15.3 The compliance report was deliberated earlier in the EAC which observed with concern that several EC conditions have not been complied with and asked the proponent to submit the action plan. The proponent has presented the compliance report to the earlier EC conditions visi-a-vis the compliance report of the RO, MoEF.

i. The target for construction of retaining wall in the year 2014-15 is for a length of 160 m (approx.) with a budgetary provision of Rs. 70.0 lakh (approx.). The work will be completed in the current Financial Year.
ii. Additional 2 nos. of mobile water sprinkler of 60/70 KL capacity for a cost of Rupees 2.4 Crores (approx.) each is under procurement at a total cost of Rs. 4.8 Crores.
iii. Fixed water sprinkling system for a length of 1.6 Km of Haul Road length will be established in the current financial year.
iv. The mine is in operation as per the plan. Balance 60 ha of decoaled area shall be converted into water body.
v. The construction of piezometers shall be done in the current financial year and the budget provision of Rs.2.05 Cr. (for NCL) has been kept for this job.
vi. Two Rain water harvesting structures near Delhi Public School and area covering Union Bank of India, Post Office and Nigahi Dispensary in residential area with a budgetary support of Rs.4.87 Lakhs.
vii. One water recharging reservoir behind cluster 5, C- Type of Nigahi Township (Area - 1.68 Ha.) with a budgetary support of Rs.44.43lakhs.
viii. The CMPDI report on zero discharge study at Nigahi Opencast Project has been sent to Regional Office, Western Region, MOEF.
ix. Proposal from NIOH, Ahmedabad has been received for conducting health study in various projects of NCL including Nigahi Opencast Project at a cost of Rs. 27 Lakhs. This is in process of finalization.
x. Additional two mobile water sprinklers of 60/70 KL capacity for a cost of Rupees 2.4 Crores (approx.) each is under procurement at a total cost of Rs. 4.8 Crores.
xi. Fixed water sprinkling system for a length of 1.6 Km of Haul Road length shall be undertaken at the coat of Rs.41.16 lakhs (approx.) in the current financial year.

17.15.4 The Committee noted with concern that the EC was granted on 08.05.2007 and even after six years many conditions have not been complied with. For example, the project authorities are supposed to carry out a study for zero discharge from NCL mines by considering various options for using excess treated effluents including artificial recharge and the report on the same shall be submitted to this Ministry within six months of issue of this clearance letter. The proponent has informed that the study has been assign to CMPDI and is under progress. The RO, MOEF is of clear view that implementation of environmental safeguards need sincere efforts especially for monitoring of ground water quality & its recharging, fugitive emissions, installation of piezometers, implementation of R&R, submission of reports on occupational diseases and hearing impairment based on study carried out by NIOH, Ahmedabad and submission of six monthly compliances with analytical reports. PA has not submitted copy of policy under PLI Act. The Committee has observed that the proponent has not made any serious efforts for compliance to the conditions. This was advised by the EAC in its meeting in 12-13 December, 2013. The Committee has also observed that the compliance of the EC conditions are far from satisfactoryt particularly in case of M/s Northern Coalfields Ltd., in its projects such as Krishnashila, Bina and Block-B projects. The EAC is of the view that the Coal India Limited is rich in technical and human resources

but still not at all serious about the environmental impact of coal mining. As a matter of fact knowledge and experience of Coal India should be guiding inspiration for other coal miners. Keeping the imminent coal demand for power generation in view, the EAC recommends the project for granting EC with suggestion that this matter be brought to the notice of the MoC and the CMD so as to respect the EC conditions in letter and spirit.

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

i. Piezometers shall be installed at the level of aquifer in the selected villages within three months.
ii. In-pit Crushers and crushers at CHP shall be operated with high efficiency bag filters, water sprinkling system should be provided to check fugitive emissions from crushing operations, conveyor system, haulage roads, transfer points etc
iii. A progressive afforestation plan shall be implemented covering a total area of not less than 2323 ha, which includes reclaimed external OB dump and backfilled quarry (1823 ha),along ML boundary , along roads and infrastructure , green belt (335 ha), along undisturbed area and in colony by planting native species in consultation with the local DFO/Agriculture Department . The density of the tree should be around 2500 plants per ha.
iv. Of the excavated area, major part shall be backfilled and reclaimed with plantation and the balance 60 ha of the de-coaled void shall be converted into a water reservoir, the higher benches of which shall be gently sloped and stabilized by plantation/afforestation by planting native plant species in consultation with the local DFO/Agriculture Department. The density of the trees should be around 2500 plants per ha.
v. Regular monitoring of ground water level and quality should be carried out by establishing a network of existing wells and construction of new piezometers. The monitoring for quantity should be done four times a year in pre monsoon (May), monsoon (August), post monsoon (November) and winter (January) seasons and for quality in May. Data thus collected should be submitted to the Ministry of Environment & Forest and to the Central Pollution Control Board quarterly within one month of monitoring.
vi. The company shall put up artificial ground water recharge measures for augmentation of ground water resource. The Project authorities should meet water requirement of nearby village(s) in case the village wells go dry due to dewatering of mine
vii. The project authorities shall carry out a study for zero discharge from NCL mines by considering various options for using excess treated effluents including artificial recharge and the report on the same shall be submitted to this Ministry within six months of issue of this clearance letter.
viii. Besides carrying out regular periodic health checkup of their workers, 10% of the workers identified from workforce engaged in active mining operations shall be subjected to health checkup for occupational diseases and hearing impairment, if any, through an agency such as NIOH, Ahmadabad within a period of two years and the results reported to this Ministry and to DGMS
ix. R & R for the remaining 390 PAPs shall be completed by 2010-11. The R & R will be based on norms not less than that stipulated under the National R&R Policy/State Govt. whichever is higher. Four ambient air quality-monitoring stations should be established in the core zone as well as in the buffer zone for SPM, RPM, SO_2 and NOx monitoring. Location of the stations should be decided based on the meteorological data, topographical features and environmentally and ecologically sensitive targets in consultation with the State Pollution Control Board.
x. Fugitive dust emission (SPM & RPM) from all the sources should be controlled regularly monitored and date recorded properly. Water spraying arrangement on haul roads, wagon loading, dump trucks(loading & unloading) points should be provided and properly maintained

xi. Environmental laboratory should be established with adequate number and type of pollution monitoring and analysis equipment in consultation with the State Pollution Control Board.

xii. A sub-Committee of the EAC shall visit to see the compliance of the EC conditions and progress on ground.

17.16 Devangudi Lignite Mine Project (2 MTPA in an area of 1566 ha) of M/s Neyveli Lignite Corp. Ltd., located in dist. Cuddalore, Tamilnadu – TOR – Further Consideration.

17.16.1 Project proponent vide letter no. ED/Mines/MoEF/2014 dated 19.07.2014 requested Ministry for postponements of the presentation.

17.17 Mata-Na-Madh Lignite Mine Project (expansion from 2.4 MTPA to 4.8 MTPA in an ML area of 1752.6156 ha) of M/s Gujarat Mineral Development Corp. Ltd located in village Mat-na-Madh, TalukLakhpat, dist. Kutchh, Gujarat – TOR – Further Consideration

17.17.1 The proposal is of Mata-Na-Madh Lignite OCP (expansion from 2.4 MTPA to 4.8 MTPA in an ML area of 1752.6156 ha) of M/s Gujarat Mineral Development Corp. Ltd in village Mat-na-Madh, Gujarat for ToR.

17.17.2 The proposal was earlier considered in the 39th EAC meeting held on 3rd - 4th January, 2012. Wherein, The Committee noted that the project has obtained EC twice - in 1999 for 0.6 MTPA and on 31.08.2010 for expansion from 0.6 MTPA to 2.4 MTPA in an area of 1752.6156 ha. The Committee noted that the present proposal is for doubling its capacity from 2.4 MTPA to 4.8 MTPA within a year of obtaining EC and observed that the proponent should have obtained an environmental clearance for expansion capacity of 4.8 MTPA in 2010 itself as the requirement of additional lignite was foreseeable even as of 2010. The Committee sought a detailed compliance status of the earlier ECs and P.H conducted for the project. The Committee also recalled that certain EC conditions such as taking prior approval of Standing Committee on Wildlife prior to mining operations and on implementation of a WL Conservation Plan were stipulated in view that the project is located near the NS WL Sanctuary and sought details of compliance thereof. The Committee desired that native species should be planted on the reclaimed areas. The Committee desired that photographs of compliance of EC conditions should also be presented. The Committee noted that the proponent has made an application through DFO, Kutch vide letter no GMDC/ENV/MNM/615/2010-11 and the State Board on Wildlife has recommended the capacity expansion and the proposal is presently at the Centre.

17.17.3 The proponent made the presentation and informed that:

i. The project was accorded EC vide letter no. J-11015/143/2008-IA.II(M) dated 31st Aug 2010. Now project proponent has applied for expansion.

ii. Coal Linkage: Linked to Merchant sale.
The latitude and longitude of the project are 23^0 32' N to 23^0 29' N and 68^0 56' E to 68^0 59' E respectively.

iii. The land usage of the project will be as follows:
Pre-mining:
The lease area has the following categories of land :

Forest	-	Nil
Private Land	-	437.89.73

Govt. Waste Land	-	1314.71.83
TOTAL	-	1752.61.56 Ha

Post- Mining:

Sl. No.	Description ML Area	Land use (Ha.)					
		Plantation	Water body	Bund	Public use	Un-changed	Total
I.	One time plantation						
1.	Top soil dump*	30	0	0	0	0	30
2.	Surface dump#	157	0	0	0	0	157
3.	Excavation	741.92	19.14	0	0	0	761.06
4.	Settling pond	10	0	0	0	0	10
5.	Facilities	25.12	0	0	0.58	0	25.7
6.	Roads	12.9	0	0	2	0	14.9
7.	Bund	0	0	7.1	0	0	7.1
8.	Plantation virgin area**	75	0	0	0	0	75
9.	Green belt	16.3	0	0	0	0	16.3
	Total Disturbed/ Changed area	1068.24	19.14	7.1	2.58	0	1097.06
10.	Unchanged area**	0	0	0	0	655.5556	655.5556
	Sub Total (I)	1068.24	19.14	7.1	2.58	655.5556	1752.6156
II.	2nd time plantation						
1	Top soil dump*	30	0	0	0	0	
2	2 nos. Surface dump removed by rehandling and planted	54.47	0	0	0	0	
	Sub total (II)	84.47	0	0	0	0	
	Grand total (I & II)	1152.71##					

iv. The total geological reserve is 35 MT. The mineable reserve 32.10 MT, extractable reserve is 32.10 MT. The per cent of extraction would be 92 %.

v. The coal grade is Average CV 2000-2500 k cal/ kg. The stripping ratio is 1:10.69 (T/M^3). The average Gradient is the dip and strike of the lignite seams are found to be irregular but they show a definite converging tendency towards the centre of the area. There will be 9 seams of lignite having thickness ranging from 0.1 to 8.40 mt.

vi. The total estimated water requirement is 1084 m^3/day. The level of ground water ranges from 5 to 9 meters.

vii. The Method of mining would be Open cast working with conventional Equipment (hydraulic Excavators & Haulers).

viii. There is no external OB dump. There are three internal dump.

ix. The final mine void would be in 19.14 Ha with depth of 90 m. and the Total quarry area is 761.06 Ha. There will be 741.92 ha Backfilled shall be reclaimed with plantation. A void of 19.14 ha with depth of 90 m which is proposed to be converted into a water body.

x. The **life of mine** is 5 Years considering 4.8 MTPA.

xi. **Transportation**: Coal transportation Surface transport by 10-17 T dumpers/trucks for lignite to consumer's and transportation of lignite.

xii. There are no **R & R** involved.

xiii. **Cost**: Total capital cost of the project is Rs 188.75 crores. CSR 2% of profit of this project (Appx.). Environmental Management Cost will be Rs. 724 Lakhs.

xiv. **Water body**: Seasonal Nallah active during Monsoon only. Khari seasonal rivulet originates in the northern part of the lease area and flows in dendritic pattern across the sloping plain and finds its way into the Gulf of Kutch flowing in SW direction joining the backwaters of creek at village Kosa, about 31 km south west of the Mata-no-Madh lignite mine. Nara seasonal rivulet originates in the northern part of the lease area and flows in dendritic pattern across the sloping plain and finds its way into the Rann of Kutch flowing in NE direction joining the Rann of Kutch at village Nara about 20 km north east of the Mata-no-Madh lignite mine.

xv. There are no national Parks, wildlife sanctuary, biosphere reserves found in the10 km buffer zone.

xvi. **Approvals**: Vide letter No. 48024 / 6 / 292-CML/CA-I Dated 10.02.2010, Ministry of Coal had approved Mata No Madh lignite Mining Plan with Progressive Mine Closure plan for capacity of 2.4 MTPA. Regarding mine closure for 4.8 MTPA, the same is still pending with Ministry of Coal for final approval.

xvii. There are no **wildlife issues** involved.

xviii. **Forestry issues**: No forest area involved.

xix. **Excess production** in 2009-10 to 2013-14.

xx. Total **afforestation** plan shall be implemented covering an area of 1152.71 ha at the end of mining. Internal OB dump (157 ha), Green belt (16.3 ha) and others area (949.41 ha). Density of tree plantation 2500 trees/ ha of plants.

xxi. 05 Land Reference cases are pending on Board at District court Bhuj. However, no violation cases are pending.

17.17.4 The Committee, after detailed deliberations, recommended the project for granting ToR with standard ToRs:

17.18 Bhivkund Opencast Coal Mining Project (2.27 MTPA) with coal washery (2.27 MTPA in an ML area of 1436.20 ha) of M/s Maharashtra State Power Co. Ltd. located in Wardha Valley Coalfields, dist. Chandrapur, Maharashtra –Validity of TOR.

Project proponent did not attend the meeting. The project was therefore deferred.

17.19 Kapurdi Lignite Open Cast Mine project for capacity enhancement from 3.75 MTPA to 7 MTPA in ML area of 3223.5110 ha for 4 years as per calendar program of M/s Barmer Lignite Mining Company Ltd., Dist. Barmer, Rajasthan- EC based on TOR granted dated 18.02.2014.

17.19.1 The proposal is of Kapurdi Lignite Open Cast Mine project for capacity enhancement from3.75 MTPA to 7 MTPA in ML area of 3223.5110 ha for 4 years as per calendar program of M/sBarmer Lignite Mining Company Ltd., Dist. Barmer, Rajasthan.

17.19.2 The proponent made the presentation and informed that:

i. The project was accorded TOR vide letter no. J-11015/17/2014-IA.II (M) dated 18.02.2014 and additional TOR on 17.04.2014.

ii. It is a Joint venture of Rajasthan State Mines & Minerals Ltd. & Raj West Power Ltd.

iii. Coal Linkage: All the lignite produced is being supplied to 1080 MW pit head power plant of Raj West Power Ltd. No other linkage.

iv. The latitude and longitude of the project are 25˚56'00" to 25˚58'00'and 71˚21'22" to 71˚22'20" respectively.

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

Pre-Mining:

Sl No	Description	Area Hectare as on 31/03/2012 (as per7MTPA Mining Plan)
1	Mining/Excavation	180.99
2	Surface Dump in ML Area	380.70
3	Top Soil Dump	12.00
4	Facilities including Lignite Stack	25.00
5	LHP & Conveyor	13.15
6	Road	32.60
7	Settling Pond/Reservoir	9.50
8	Green Belt	16.11
9	Void	180.99
10	Undisturbed/Indirectly Affected	2553.46
	Total	3223.51

Post- Mining:

Sl. No.	Description of Area	Plantation	Water Body	Public Use	Undisturbed	Total
1	Excavation	1640.08	541.27	0.00	0.00	2181.35
2	External Dump	703.01	0.00	0.00	0.00	703.01
3	Top soil Dump	0.00	0.00	0.00	0.00	0.00
4	Facilities including lignite stack	0.00	0.00	5.00	0.00	5.00
5	Road	2.00	0.00	3.00	0.00	5.00
6	LHP and conveyor	10.00	0.00	0.00	0.00	10.00
7	Settling pond /reservoir	10.00	0.00	0.00	0.00	10.00
8	Green belt	96.66	0.00	0.00	0.00	96.66
9	Undisturbed	0.00	0.00	0.00	212.49	212.49
	Total	2461.75	541.27	8.00	212.49	3223.51

Core area: Total 3223.51 hectare land is in the physical possession of BLMCL for mining purpose.

vi. PROPOSED LANDUSE PLANNING

Proposed Use	Area (ha)

Mine Excavation	883.000
Top soil Dump	12.000
O.B.Dump	157.280
Infrastructure	3.510
Power plant	85.412
Green belt	75.000
Intervening area (Undisturbed area)	1439.498
Total	2655.700

vii. The total geological reserve is 150.40 MT. The mineable reserve 134.61 MT, extractable reserve is 129.79 MT. The per cent of extraction would be 96.4 %.

viii. The coal grade is Lignite with average CV of 2692 Kcal/kg. The stripping ratio is 12.48. The average Gradient is almost flat; occasionally undulating. There will be 12 seams with thickness ranging 0.5 m to 6 m.

ix. The total estimated water requirement is 2738 m3/day. The level of ground water range 80 m bgl.

x. The Method of Mining will be Open Cast Mining with Shovel Dumper Combination.

xi. There are 7 Nos. of external OB dump of which 2 Nos will be re-handled. Having Quantity of 319.061 Mbcm in an area of 703.01 ha with height of 90 m above the surface level. One internal dump with Quantity of 1289.822 Mbcm in an area of 1640.08 Ha.

xii. The final mine void would be in 541.27 Ha with depth of 90 m. and the Total quarry area is 2181.35 Ha. Backfilled quarry area of 1640.08 Ha shall be reclaimed with plantation. A void of 541.27 ha with depth of 90 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. Ambient air Quality survey was conducted during summer season from 1st March 2014 till 30th May 2014. The study was for three months with frequency of twice a week in core zone and buffer zone. 24 hour average samples were collected from each station. These samples were analysed in laboratory by adopting the methods specified in National Ambient Air Quality Standards. The results were within prescribed limit. Details are furnished below:

Pollutant	Standard for Ambient Air (µg/M³)	At the Mine working Area (µg/M³)	In the Buffer zone(µg/M³)
PM10	100	72.2	62.2 – 70.1
PM2.5	60	41.7	35.7 – 39.8
SO2	80	11.6	9.2 – 11.7
NOx	80	18.1	11.9 – 15.2
CO	2000	422	318 - 448

xiv. The **life of mine** is 31Years.

xv. **Transportation**: Coal transportation in pit by Dumpers, Surface to Siding By Covered Conveyor to pit head power plant.

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

xvii. **Cost**: Total capital cost of the project is Rs. 527 Crores. CSR Cost Rs. Rs 5/- per ton. No R&R

involve in present capacity enhancement. Environmental Management Cost (capital cost Rs. 29.1925 crores, annual recurring cost Rs. 9.9986 crores).

xviii. **Water body**: No river/ Nallha flowing near or adjacent to the proposed mine.

xix. **Approvals**: Ground water clearance approved on 26.4.2011, Board's approval obtained on 24.07.2012. Revised Mining Plan and Mine Closer Plan for 7 MTPA has been approved by MoC vide letter No. 13016/12/2012-CA-I dated 29th January 2014. Revised Mine Closer Plan approved by MoC vide letter No. 13016/12/2012-CA-I dated 29th January 2014.

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

xxi. **Forestry issues**: No forest land involved in the mining area.

xxii. Total **afforestation** plan shall be implemented covering an area of 2461.75 ha at the end ofmining. Green Belt over an area of 96.66 Ha. Density of tree plantation 500 / ha of plants.

xxiii. There are no **court cases** pending with the project proponent.

xxiv. **Public Hearing** was held on 06.06.2014 at Shiv Mandir, Mairathonki Dhani, Village Panchayat – Kapurdi. The issues raised in the PH includes Lack of information; Death rate of the area ; Rain water from sand dunes ; electricity; Medicines; medical facilities ; environment protection measures; Arrangement for dust suppression; Local Employment; Satellite imagery ; Plantation; land compensation etc.

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

i. There shall be no road transportation of lignite and shall be by covered conveyor belt.
ii. The internal dumping shall be started from 5th year.
iii. The proponent shall plant all the native species of plants and shall avoid any exotic plant species.
iv. The saline water shall be treated by RO. The treated water be used for watering the plantation and not by saline water..
v. MoEF be informed as soon as the RO plant is commissioned.
vi. Bunds be constructed so as to prevent surface runoff of water.
vii. Proponent mat=y explore the feasibility of separating economic minerals from earlth.
viii. Sacred groves of Oran be protected for which Rs 1 crore be provided.
ix. The proponent shall develop grazing plan for new livestocks and should consult CZARI for making effective grazing lands.
x. The proponent shall regularly examine and mitigate the health issues in the area particularly
xi. CSR activities need to be got done annually through a reputed institute and details be put up in the company's website
xii. The Top soil of the OB dumps be used for grasses/plantation.
xiii. The OB dumps be reutilized/re-handled fully. A plan of action be submitted to the MoEF for record.
xiv. The CSR cost should be Rs 5 per tonnes of Coal produced which should be adjusted as per the annual inflation.
xv. The OB dumps shall be re-utilised. At the end of the mining, the external OB dumps shall be re-handled to reduce the depth of the final void from 120 m to 40 m.
xvi. Recommendations of the CAZRI report shall be implemented in Kapurdi Lignite Block.
xvii. There shall be no overflow of OB into the river and into the agricultural fields and massive plantation of native species shall be taken up in the area between the river and the project.
xviii. Check dams be constructed for recharging of ground water.

xix. Environmental Cell be established with the ecologist and scial scientists for monitoring environmental issues.

xx. A sub-Committee of the EAC shall visit the project so as to see the compliance of earlier conditions.

17.20 Kulti coal block project (1 MTPA in an ML area of 767.16 ha) of M/s West Bengal Mineral Development & Trading Corp. Ltd. located at dist. Bardhawan, West Bengal - EC based on TOR granted on 30.11.2011, amended on 10.02.2012 &16.09.2013.

17.20.1 The proposal is of Kulti coal block project (1 MTPA in an ML area of 767 .16 ha) of M/s West Bengal Mineral Development & Trading Corp. Ltd. located at dist. Burdwan, West Bengal.

17.20.2 The proponent made the presentation and informed that:

i. The project was accorded TOR vide letter no. J-11015/233/2011-IA.II(M),dated 30.11.2011, amended on 10.02.2012 & 16.09.2013. There is no Joint Venture.

ii. The latitude and longitude of the project are 23°42'18" N to 23°44'02" Nand 86°49'48" E to 86°52'14" Erespectively.

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

Pre-Mining:

Particulars	Area, Ha	Particulars	Area, Ha
Village Area	127.49	Shop Area	3.94
Colony Area	16.17	Agricultural Land	522.37
Residential Area	8.52	Kaccha Road	2.30
Brick Kiln	12.60	Pucca Road	3.74
Commercial Area	4.58	Marshy Land	3.03
Barren Area	17.92	Pond	39.19
Play Ground	2.14	Pucca Building	0.30
Plantation	0.21	Semi Pucca House	0.15
Nallah	2.30	Total area	767.16

iv. Post- Mining & Core area : Kulti Coal Block is adjacent to Sitarampur Coal Block and it has been planned to develop both the Coal Blocks with a common single mine entry in Sitarampur coal block. So no area will be disturbed in Kulti Coal Block. Hence, post mining activities will be mostly concentrated in Sitarampur coal block.

v. The total geological reserve is 269.19 MT. The mineable reserve 225.25 MT, extractable reserve is 64.67 MT. The per cent of extraction would be 24.0 %.

vi. The coal grade is S-I, S-II, W-I, W-II, W-III, W-IV and in some places Non-Coking. The stripping ratio is not applicable. The average Gradient is the dip of the beds varies from 10° to 20° towards southeast. There will be 07 (workable) seams with thickness ranging from 0.41m to 26.24m.

vii. The total estimated water requirement is 1331m^3/day (Potable = 272 cum/day Industrial & plantation = 1059 cum / day). The level of ground water ranges 3 m – 12 m, (Pre Monsoon) and 1 m – 7 m, (Post Monsoon).

viii. The Method of mining would be by mainly by mechanized powered Support Longwall, apart from this Bord & Pillar underground mining by Continuous Miner with shuttle cars shall be used, wherever longwall panel layout is not feasible..

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

x. The **life of mine** is 69 years with 3 years development. .

xi. **Transportation**: Coal transportation in pit by Gate and trunk belt conveyors to UG bunker and by Skip through Shaft from all seams (of Sitarampur and Kulti both) Surface to Siding by pipe conveyor and loading by railway siding or by silo.

xii. There is no displacement involved in Kulti Coal Block. Only agriculture land of 25.95 Ha in Sitarampur Coal Block will be purchased directly from the land owner for setting up common mine infrastructure for both Kulti Coal Block and Sitarampur Coal Block. There are no PAFs involved.

xiii. **Cost**: Total capital cost of the project is Rs. 1440 Crore approximately *(combined for Kulti and Sitarampur coal blocks)*. CSR Cost Minimum estimated budget of Rs. 0.86 crore per annum for CSR activities (recurring cost) for the life of the project apart from one time capital investment cost of Rs. 8.52 crore has been proposed. Environmental Management Cost Capital cost – Rs. 249.74 lakhs Recurring Rs. 121.93 lakhs per year*(Combined for Kulti and Sitarampur coal blocks)*

xiv. **Water body** : The block falls under the Barakar (Damodar) River watershed and lie downstream of Maithon reservoir constructed on Barakar River. There are seasonal streams originating from the northern and southern side of the mine boundary in Kulti Coal Block and joins higher order streams outside the block which eventually join the Barakar and Damodar rivers or its tributaries in the west and south. These streams The drainage pattern of the study area is dendrite type and at places sub parallel in nature. There are ponds of various sizes within the Mining Lease area, but no major seasonal nalla passing through the coal block.

xv. **Approvals**: Ground water clearance applied on 08.07.2014. Board's approval obtained on 28.2.2013. Mining Plan and Mine Closure Plan has been approved by Ministry of Coal vide letter 13016/ 83/2006-CA-I dated 28.4.2014 Wildlife issues: There are no national Parks, wildlife sanctuary, biosphere reserves found in the 10 km buffer zone.

xvi. **Forestry issues**: No forest area involved in the mining area.

xvii. There are no **court cases/violation** pending with the project proponent.

xviii. **Public Hearing** was held on 04.09.2013 at Welfare Centre, LC Road, Kulti, Dist Burdwan. The issues raised in the PH includes scope of employment for the local unemployed youths; compensation to land losers; agricultural field causing damage ; fate of existing factories etc.

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

i. Railway siding shall be established for handling of coal.
ii. Conveyor belts shall be provided for coal transportation to the siding.
iii. Stones and boulders be utilized for stowing purposes.

iv. The mine water after treatment shall be used for agriculture purpose.
v. Proponent should provide adequate air conditioning so as t prevent heat and humidity to the underground mining.
vi. The sub-surface water should not be disturbed.
vii. Piezometers be installed in the surrounding villages for monitoring the ground water.
viii. Check dams be constructed for water harvesting and for recharging the ground water.
ix. Rs. 10 crores be provided for undertaking various CSR activities.

17.21 Sitarampur coal block project (1 MTPA in an ML area of 834.96 ha) of M/s West Bengal Mineral Development & Trading Corp. Ltd. located at dist. Bardhawan, West Bengal - EC based on TOR granted on 30.11.2011, amended on 10.02.2012& 16.09.2013.

17.21.1 Sitarampur coal block project (1 MTPA in an ML area of 834.96 ha) of M/s West Bengal Mineral Development & Trading Corp. Ltd. located at dist. Bardhawan,West Bengal - EC based on TOR granted on 30.11.2011, amended on 10.02.2012 &16.09.2013. The proponent made the presentation and informed that:

i. The project was accorded TOR vide letter no. J-11015/233/2011-IA.II(M),dated 30.11.2011, amended on 10.02.2012 & 16.09.2013. There is no Joint Venture.
ii. The latitude and longitude of the project are 23°43'21" N to 23°45'24" N and 86°51'15" E to 86°53'22" E respectively.
iii. The land usage of the project will be as follows:

Pre-Mining:

Particulars	Area, Ha	Particulars	Area, Ha
Village Area	43.4	Kaccha Road	3.798
Residential Area	13.683	Pucca Road	3.254
Brick Kiln	1.144	Pond	45.037
Barren Area	21.679	Pucca Building	0.307
Play Ground	0.568	Semi Pucca House	0.78
Plantation	1.066	Nallah	0.242
Agricultural Land	669.669	Factory	30.333
		Total area	834.96

iii. Post- Mining & Core area: Kulti Coal Block is adjacent to Sitarampur Coal Block and it has been planned to develop both the Coal Blocks with a common single mine entry in Sitarampur coal block. So no area will be disturbed in Kulti Coal Block. Hence, post mining activities will be mostly concentrated in Sitarampur coal block.
iv.
v. The total geological reserve is 232.26 MT/ 209.04 MT. The mineable reserve 100.50 MT, extractable reserve is 67.35 MT. The per cent of extraction would be 32.22 % (u/g).
vi. The coal grade is S-I, S-II, W-I, W-II, W-III, W-IV and in some places Non-Coking. The

stripping ratio is not applicable. The average Gradient is dip of the beds varies from 10° to 20° towards southeast. There will be 09 (workable) seams with thickness ranging from 0.11 m to 18.40 m.

vii. The total estimated **water requirement** is 1331 m3/day (Potable = 272 cum/day Industrial & plantation = 1059 cum / day). The level of ground water ranges 2.8 m - 20 m (Pre Monsoon) and 0.8 m to 6.4 m (Post Monsoon).

viii. The Method of mining would be by mainly by mechanized powered Support Longwall, apart from this Bord & Pillar underground mining by Continuous Miner with shuttle cars shall be used, wherever longwall panel layout is not feasible..

ix. There will be temporary storage of the waste rock generated during shafts and drifts drivage (as it is an underground mine). These waste rocks will be used for filling up the voids or low lying areas within the block, as per requirement in future. (This dump shall be combined for Sitarampur and Kulti Coal Blocks and shall be located in Sitarampur coal block)

x. There is one external OB dump with Quantity of 0.3 Mbcm (waste rock from shafts & UG drifts drivage)(waste rock from UG drifts drivage) in an area of 3 ha with height of 10 meter above the surface level. there is no internal dumps

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

xii. The **life of mine** is 72 years with 3 years development period.

xiii. **Transportation**: Coal transportation in pit by Gate and trunk belt conveyors to UG bunker and by Skip through Shaft from all seams (of Sitarampur and Kulti both) Surface to Siding by pipe conveyor and loading to siding by Rail..

xiv. Total **Afforestation** plan shall be implemented covering an area of 12.97 ha at the end of mining Green belt will be developed over an area of 9.97 Ha. Density of tree plantation 2500 trees/ ha.

xv. No displacement is involved, only agriculture land of 25.95 Ha will be purchased directly from the land owner for setting up mine infrastructure There are no PAFs involved.

xvi. Cost: Total capital cost of the project is Rs. 1440 Crore approximately (combined for Kulti and Sitarampur coal blocks). CSR Cost Minimum estimated budget of Rs. 0.86 crore per annum for CSR activities (recurring cost) for the life of the project apart from one time capital investment cost of Rs. 8.52 crore has been proposed. Environmental Management Cost Capital cost–Rs. 249.74 lakhs Recurring –Rs. 121.93 lakhs per year (Combined for Kulti and Sitarampur coal blocks)

xvii. **Water body**: The block occupies a part of Barakar (Damodar) River watershed and lies downstream of Maithon reservoir constructed on Barakar River. There are seasonal drains in the north and south east which, join higher order streams outside the block and eventually join the Barakar and Damodar rivers or its tributaries in the west and south. The drainage pattern of the study area is dendrite type and at places sub parallel in nature. There are ponds of various sizes within the Mining Lease area.

xviii. **Approvals**: Ground water clearance applied on 08.07.2014. Board's approval obtained on 28.2.2013. Mining Plan and Mine Closure Plan has been approved by Ministry of Coal vide letter 13016/ 83/2006-CA-I dated 28.4.2014

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

xx. **Forestry issues**: No forest area involved in the mining area.

xxi. There are no court cases/violation pending with the project proponent.

xxii. **Public Hearing** was held on 04.09.2013 at Welfare Centre, LC Road, Kulti, Dist Burdwan. The issues raised in the PH includes scope of employment for the local unemployed youths; compensation to land losers ; agricultural field causing damage ; fate of existing factories etc.

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

i. Thick green belts and water sprinkling be provided to curb air pollution, including around the temporary coal storage where the conveyor belt maintenance is undertaken.
ii. Conveyor belts shall be provided for coal transportation to the siding.
iii. Stones and boulders be utilized for stowing purposes.
iv. The mine water after treatment shall be used for agriculture purpose.
v. Proponent should provide adequate air conditioning so as t prevent heat and humidity in the underground mining faces.
vi. The sub-surface water should not be disturbed.
vii. Piezometers be installed in the surrounding villages for monitoring the ground water.
viii. Check dams be constructed for water harvesting and for recharging the ground water.

17.22 Bikram Coalmine Project (OC and UG for max. 0.36 MTPA in an ML area of 239 ha) of M/s Birla Corp. Ltd., dist. Shahdol, Madhya Pradesh -EC based on TOR granted on 28.10.2010 – Further Consideration.

17.22.1 The proposal is of Bikram Coalmine Project (OC and UG for max. 0.36 MTPA in an ML area of 239 ha) of M/s Birla Corp. Ltd., dist. Shahdol, Madhya Pradesh -EC based on TOR granted on 28.10.2010.

17.22.2 The proposal was earlier considered in the 55th EAC meeting held on 27th-28th August, 2012 and 7th EAC meeting held on 12th -13th December, 2013. The Committee had sought following additional information:

i. Clarification on the amount of coal present in the upper seams in A1-A4 blocks and the area comes under A2-A4.
ii. Report of the proponent relating to the underground mining option in the proposed opencast area be referred to ISM, Dhanbad for their observation as the proposed OC area harbours good forest.
iii. Social cost benefit analysis be examined for underground mining versus opencast mining option and not separately for a preferred mining option as has been done by the proponent.
iv. Details of Rail siding be provided.
v. Coal transportation by road shall be initially for 3 years by mechanically covered trucks. Thereafter, the proponent is required to expedite the siding near the mine on priority basis.

17.22.3 The proponent made the presentation and further informed that:

i. Coal is present in the upper seams in A1-A4 blocks and the area comes under A2-A4 which amounts to 4.82 MTPA over an area of 118.60 Ha. The extractable coal by opencast method shall be 3.758 million tonnes.
ii. Report of the proponent relating to the underground mining option in the proposed opencast area be referred to ISM, Dhanbad for their observation as the proposed OC area harbors good forest.

iii. The ISM, Dhanbad was of the view that :

a. The technology for extraction of less than 1.2 m thick coal seam is presently not available in India. Hard cover of strata more than 15 m is required forunderground mining for preventing breathing of air through the strata in the goaf and subsequent fire in the broken coal left in the goaf, and preventing air blast due to sudden fall of strata cover into the goaf. For hardcover thickness less than 15.0 m, the DGMS does not give permission for underground mining due the above reasons.

b. The justification for underground mining of coal seams IX and VIII in sub blocks A1 and A3 in both the alternatives 1and 2 proposed by IIT- BHU, lower seams, i.e. seams below VIII, in block A and all seams of block B are to be extracted by Underground Mining. The sub blocks A1, A2, A3, A4 and Block B are shown in Figure below. The underground mining of coal seams IX and VIII in sub blocks A1 and A3 meet the underground mining method criteria.

c. By underground mining of coal seams IX and VIII in sub blocks A1 and A3, it is neither possible to protect the plants and trees in the forest nor conserve the coal.

d. The ISM, Dhanbad has therefore concurred and recommended that :

1) The coal seams IX and VIII should be mined by opencast method of mining in whole block A.
2) It is not advisable to extract the coal seams IX and VIII in the block A by underground methods of mining.
3) However, in the block A, all the seams below the IX and VIII should be mined by underground methods of mining.

e. Preferred Mining Method:

1) The Department of Mining Engineering, Indian Institute of Technology, Benaras Hindu University (BHU), Varanasi, has made the study to find the most preferred method for proposed Bikram Coal Block.
2) As per the study report of BHU, the most preferred mining method is the combination of both Underground and Opencast mining, which is in line with approved Mining Plan.
3) it is proposed to mine the shallow coal of seam IX underlying less than 15m hard cover and the next lower seam VIII of thickness less 1.2m, under exactly the same area with opencast Mining method.
4) The remaining dip side portion of both the above mentioned seams along with all the remaining three lower seams will be mined by underground method.
5) Alternatives for Railway Siding: Three alternatives alignments have been explored for the proposed railway siding. Viz. ALT-1: Proposed siding parallel to Exst. MN lines at UP side; ALT-2: Proposed siding parallel to Exst. MN lines at DN side; ALT-3: Proposed siding at UP side of Existing MN lines. Among the three alternatives discussed in this report, alternative no. 1 appears to be the best, since it is cheapest one, crosses least structures, having less land acquisition and workable

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

i. There shall be no road transportation of coal.

ii. Coal transportation shall be by rail siding which is 3.5 KM from the mine (Alternative 1 as per the report of the proponent) be implemented.
iii. Piezometers be installed in the surrounding villages for monitoring the ground water.
iv. Check dams be constructed for water harvesting and for recharging the ground water.
v. Exploration of possibility be made for utilizing stones and boulders for stowing purposes.

17.23 Mahuagarhi opencast Coal Mining Project (4 MTPA in 1150 ha area) of M/s Mahuagarhi Coal Company Private Ltd., located in Mahuagarhi Coal field, Tehsil Kathikund, Dist. Dumka Jharkhand – TOR.

17.23.1 The proposal is seeking for ToR by Mahuagarhi opencast Coal Mining Project (4 MTPA in an ML area of 1185.27 ha area) of M/s Mahuagarhi Coal Company Private Ltd., Mahuagarhi Coal field, Tehsil Kathikund, Dist. Dumka Jharkhand.

17.23.2 The proponent made the presentation and informed that:

i. During the presentation it was submitted that the ML Area as per block allotment will be 1185.27 ha.
ii. It is a Joint Venture company of M/s Jas Infrastructure Capital Pvt. Ltd. (50%) & M/s CESC Ltd.(50%)
iii. The latitude and longitude of the project are North-West E 87° 26' 33" & N 24° 24' 14" ; North E 87° 27' 38" & N 24° 23' 59" ; North-West E 87° 27' 52" & N 24° 23' 46" ; East E 87° 28' 00" & N 24° 23' 26" ; South-East E 87° 27' 54" & N 24° 22' 35"; East E 87° 27' 01" & N 24° 22' 14" ; South-East E 87° 26' 48" & N 24° 22' 28" ; Sout E 87° 26' 21" & N 24° 23' 30" respectively.
iv. The land usage of the project will be as follows:

   a. Pre-Mining: Agriculture-257.096 Ha; habitation - 1.762 Ha ;Gochar-5.699 Ha ;Community-0.332 Ha; leasable-10.222 Ha ;water body-8999 Ha ; Embankment-1.883 Ha; road- 6.246 Ha; forest-48.849 Ha; P.F.62.573 Ha ; R.F.-396.34 Ha.
   b. Post- Mining & Core area: Excavation- 193.71 Ha; dump-93.96 Ha; top soil dump-4 Ha; green belt-10 Ha; bund-5.66 Ha; infrastructure-25 Ha; magazine & road-6.77 Ha; undisturbed -430.9 Ha.

v. The total geological reserve is 305.95 MT(Phase – I : 117.55MT). The mineable reserve 57.583 MT by OC (Phase-I), extractable reserve is 57.583 MT by OC (Phase-I). The per cent of extraction would be 48.98 %.
vi. The coal grade is G8-G13 (As per GCV grading). The stripping ratio is 2.13-3.49 9 (overall 4.02). The average Gradient is 5-20˚-NW-SW to NNW-SSE. There will be 8 seams with thickness ranging from 0.25 m – 15.40 m.
vii. The total estimated water requirement is 1613 m^3/day. The level of ground water ranges from 1.5m -13.5m.
viii. The Method of mining would be Mechanized open cast.
ix. There is three (Phase-I) external OB dump with Quantity of 161.27 Mcum in an area of 339.22 Ha with height of 80 m-100 m, with 3 tier of 10 m each and two (Phase-I) internal dump with Quantity of 35.38 Mcum in an area of 93.96 Ha.

x. No final mine void envisaged. The total quarry area is 193.71 Ha (Phase-I). There will be no backfilled in phase - I.

xi. The **life of mine** is 17 Years (Phase-I).

xii. **Transportation**: Coal transportation in pit by Dump Trucks, Surface to Siding by road in covered trucks and loading to siding by mechanized.

xiii. There is **R & R** involved. There are 163 PAFs.

xiv. **Cost**: Total capital cost of the project is Rs. 65614.84 lakhs. CSR and R&R Cost will be worked after EIA studies & as per State Govt. policy.

xv. **Water body:** Gumra Nadi and Trupti nullah are the main surface runoff flowing from NW to SE in the western and eastern part of the area respectively.

xvi. **Approvals**: Applied for Ground water clearance on 01-01-2014(No. MCCPL/IC/013/13-14). Board's approval is awaited. Mining plan has been submitted to MOC vide our letter No. 106 dated 26.09.13 for approval.

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

xviii. **Forestry issues**: Total forest area involved 507.762 Ha for mining. Applied for forest clearance vide no. MCCPL/IC/015/13-14 on 01-02-2014. Extent of forest land in the project Jangal Jhari-48.849 Ha; P.F.62.573 Ha; R.F.-396.34 Ha.; Safety zone area 30.52 Ha.

xix. Total **afforestation** plan shall be implemented covering an area of 137.33 ha at the end on mining. This include reclaimed external OB dumps 93.96 ha. Green belt over 10 ha with a density of tree plantation 2500 plants per Ha.

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

xxi. The land use as per satellite image interpretation:

Land use	Area (ha)
Water	212.5
Forest	10598.6
Degraded forest	11946.1
Agriculture land	4046.8
Fallow land	11593.4
Degraded land	6551.8
Settlements	90.4
Roads	176.3
Area	45216.0

17.23.3. The proponent has requested for reduction in production of coal from earlier 10 MTPA

to 4 MTPA and increaser in the area 800 ha to 1185 Ha. The rationales behind this change are due to the following:

i. The initial application for grant of TOR for proposed 10 MTPA for MCCPL was based on the limited regional exploration data of GSI for the Coal Block. Subsequently, MCCPL has taken up further exploration of the block and reassessed the Geological & Mineable reserves.

ii. Based on the detailed study made on reserve assessment, the Mine Plan has presently been prepared for a feasible 4 MTPA capacity, and submitted to the Ministry of Coal in September, 2013, for approval. Accordingly, the TOR applicationhas been made for the proposed capacity of 4 MTPA.

iii. The mine plan, presently submitted for approval has projected a requirement of 1185.27 Ha. as against the land requirement of 1150 Ha proposed in our previous application. This increase of about 35.27 Ha in primarily on account of Mine insfrastructure and facilities and Green Belt envisaged in the Mine Plan.

17.23.3. The Committee, after detailed deliberations, accepted the request of the Proponent and recommended the project for granting ToR with standard ToRs:

17.24 Suliyari Belwar Opencast Coal Mine project (Ph-I) (5 MTPA normative and 6 MTPA peak in an Project area of 1080.99 ha) of M/s Andhra Pradesh Mineral Development Corp. Ltd. located at Dist. Singrauli, Madhya Pradesh - EC based on TOR granted on 19.10.2012.

17.24.1 The proposal is for seeking EC for Suliyari Belwar Opencast Coal Mine project (Ph-I) (5 MTPA normative and 6 MTPA peak in an Project area of 1080.99 ha) of M/s Andhra Pradesh Mineral Development Corp. Ltd. located at Dist. Singrauli, Madhya Pradesh.

17.24.2 The proponent made the presentation and informed that:

i. The project was accorded TOR vide letter no. J-11015/183/2012-IA.II(M) dated 19.10.2012.

ii. The latitude and longitude of the project are N23^{0}55'28" to 23^{0}58'15" and E 82^{0}18'52" to E 82^0 20'58 respectively.

iii. Joint venture: Yes, The Andhra Pradesh Mineral Development Corporation Limited and The Singareni Collieries Company Limited.

iv. Coal linkage: APGENCO.

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

Pre-Mining:

Land Use Land Cover class		Area in Ha
Agriculture		
	Single Crop land	665.75
	Fallow	27.92
Waste Land	Land with/without scrub	282.92
Surface Water		
	Surface water	25.31
Built-Up Land		

	Habitation	6.87
Total Area		1008.77

vi. Area proposed for Nallah diversion:

Land Use Land Cover Class		Area of Sub Class	
		Area in Ha	% of Usage
Agriculture			
	Single Crop	40.71	56.37
	Fallow	2.52	3.49
Waste Land			
	Land with/without scrub	25.66	35.53
Surface Water			
	Surface Water	3.33	4.61
Total Area		72.22	100

Post- Mining:

SN	Description	LAND USE DETAILS (Ha.)				
		Plantation	Void area	Public Use	Other Uses	Total
1.	Excavation Area					
	(a)Backfilled area	398.83	--	--	--	398.83
	(b) Void area left	--	409.03	--	--	409.03
2.	Afforestation other than dumps	123.12			--	123.11
3.	Nala Diversion				72.22	72.22
4.	Built up area / Infrastructure				77.79	77.79
	TOTAL	521.95	409.03	--	150.01	1080.99

Core area :

Particulars	Total Land Requirement (Ha)			
	Forest land	Private land	Govt. Land	Total
Quarry Area	0.00	433.48	374.38	807.86
Safe Barrier, Drainage, Roads	0.00	78.91	86.91	165.82
Service Buildings	0.00	26.82	0.99	27.81
Railway siding	0.00	6.53	0.75	7.28
Nala diversion	0.00	22.15	50.07	72.22
Total Land Requirement	0.00	567.88	513.11	1080.99

vii. The total geological reserve is 95.31 MT. The mineable reserve 79.79 MT, extractable reserve is 71.81MT. The per cent of extraction would be 90%.

viii. The coal grade is G-9. The stripping ratio is 8.41 Cum/tonne The average Gradient is 1 in 12 to 1 in 24. There will be 12 seams with thickness ranging from 0.05 m to 5.82 m.

ix. The total estimated **water requirement** is 1615 m^3/day. The level of ground water ranges Pre monsoon (2012): 5.02 m to 12.50 m Post monsoon (2012): 1.00 m to 11.35 m.

x. The Method of mining would be Opencast

xi. There is One external OB dump with Quantity of 28.33 Mbcm in an area of 68.11 Ha with height of 90m above the surface level and One internal dump with Quantity of 604.03 Mbcm in an area of 551.87 ha having an height 120 m above ground level.

xii. The final mine void would be in 409.03 Ha with depth of 245 m. and the Total quarry area is 807.86 Ha. Backfilled quarry area of 398.83 Ha. shall be reclaimed with plantation. A void of 409.03 Ha with depth of 245 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. Yes Base Line Data (BLD) has been generated during March 2012- May 2012 i.e Summer Season the monitoring results are within the limits

xiv. The life of mine is 17 Years.

xv. **Transportation**: Coal transportation in pit by Belt Conveyor Surface to Siding by Belt Conveyor and loading to siding by Loading to wagon.

xvi. There is **R & R** involved. There are 1341 PAFs.

xvii. **Cost**: Total capital cost of the project is Rs. 1086.75 Crores. CSR Cost Rs. 42 crores/year. R&R Cost 230.79 Crs. Environmental Management Cost (capital cost Rs 5.23 Crs, annual recurring cost Rs 2.23 per tonne).

xviii. **Water body**: Yes, Diversion of Hurdul Nala for a length of 5.7 Km has to be taken up in the existing project. Approval has been obtained for diversion vide letter no. 1411/Tak/2013 dated 08.05.2013 from Jal Samsadan Sambag, Singrauli.

xix. **Approvals**: Ground water clearance approved on 17.11.2013, Board's approval obtained on 06.09.2013. Mining Plan has been submitted to MoC and awaiting for approval. Mine closure plan is an integral part of mining plan.

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

xxi. **Forestry issues**: No forest area involved for mining area.

xxii. Total **afforestation** plan shall be implemented covering an area of 521.95 ha at the end of mining. Green Belt over an area of 123.12 Ha. Density of tree plantation 2500trees/ ha of plants. The void area 409.03 Ha will be used for expansion of Suliyari Belwar Opencast Project (Phase – I) under Phase – II.

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

xxiv. **Public Hearing** was held on 04.06.2013 The issues raised in the PH includes employment ; R&R package; facilities like roads, electricity, water supply, education, health & medical facilities, playground, super Market, parks etc at R&R centre; Measures for depletion of ground water; Compensatory Afforestation etc.

17.24.3 The Proponent was asked to submit information on the following issues on which a representation was received:

i. Impact of proposed diversion of Hurdulnalla
ii. Impact of waste water discharge on the Gopad River, a tributary of the Son River
iii. Impact on agriculture
iv. Cumulative impact assessment
v. Impact of flora and fauna
vi. Socio-economic impacts

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

i. Detailed information to the representation be submitted.
ii. EC is considered for the non-forest land only for which the lease is available.
iii. The diversion of river be approved by the MP Sate Govt.
iv. There shall be no void at the end of the mining.
v. The external OB shall be completely rehandled. A detailed plan I this regard be submitted.
vi. A conservation plan be prepared and approved by the State Govt. and the recommendations be implemented.
vii. Action plan for the construction of check dams and installation of piezometers be submitted.
viii. Diversion of nallas be reexamined ad a detailed report be submitted to the EAC for further consideration
ix. No exotic plants be planted ad only endemic plants be planted.
x. Approved Mine plan and closure plan be submitted.

17.25 Coal Washery project (5 MTPA in an area of 10.1171 ha) of M/s Hind Multi Services Pvt. Ltd., located at Village Gatora, District, Bilaspur, Chhattisgarh.-TOR.

17.25.1 The proposal is for Coal Washery project of (5 MTPA in an ML area of 25 acres) M/s Hind Multi Services Pvt. Ltd., District, Bilaspur, Chhattisgarh.

17.25.2 The proponent made the presentation and informed that:

i. The proposal is for Terms of Reference for coal washery.
ii. There is no joint venture.
iii. Coal Linkage: Source of ROM coal from SECL Bilaspur & Korba area.
iv. The latitude and longitude of the project are :
22^0 3' 40.72"N; $82^0$14'26.12" E
22^0 3' 33.40"N; $82^0$14'22.93" E
22^0 3' 33.49"N; $82^0$14'21.50" E
22^0 3' 35.33"N; $82^0$14'21.15" E
22^0 3' 41.77"N; $82^0$14'21.72" E
iii. The land usage of the project will be as follows:
Pre-Mining: Major uncultivated with few patches of single crop.

Post- Mining:

Description	Area (in acres)
Washery Area	9.0

Reject Disposal Area	2.5
Greenbelt	8.0
Coal Storage Yard & Truck Tripling System Yards	2.0
Raw Water Reservoir	1.5
Fabrication/Construction Yard	1.5
Others	0.5
Total	25.0

Core area: Major uncultivated with few patches of single crop.

iv. Critically Polluted area is Korba, which is 55.7 km away from the site in NE.
v. **Transportation**: Coal will be sourced from SECL Bilaspur mines and will be transported by Rail/RoaduptoGatora Railway station and from there in covered trucks by Road upto the Washery site (1.0 Km dedicated road). Railway siding is already completed. Washed Coal from the Plant will be transported by Road in covered trucks directly to the different customers (Power plants, Cement Plantsand sponge Iron Plants) or by road uptoGatora Railway station and from there by rail. Mode of transport of washed coal will depend on the MOU with the customers who may specify either road or rail transport mode.
vi. There is no **R & R** involved. There are no PAFs.
vii. **Cost**: Total capital cost of the project is Rs. 40 Crores. CSR Cost: (Capital Rs. 2.0 Crores & Annual Recurring is Rs. 0.16 Crores. Environmental Management Cost (Capital cost Rs.2.30 Crores, annual recurring cost Rs.0.21 Crores).
viii. **Water body**: No river/ nallha in or adjacent to applied area. Nearest River (Kharang Nadi): 2.1 Km W; River (Arpa River): 2.5 Km SW.
ix. **Approvals**: Ground water clearance Water requirement will be met from Kharang River about 2.1 KM in west direction. Application for withdrawal of water from Kharang/ Arpa river has been submitted to Jal Sansadhan Vibhag, Chattissgarh,
x. **Wildlife issues**: There are no national Parks, wildlife sanctuary, biosphere reserves found in the10 km buffer zone.
xi. **Forestry issues**: There is no forest area involved in the project site.
xii. Total **afforestation** plan shall be implemented covering an area of 8.0 ha. Green Belt over an area of 8.0 ha. Density of tree plantation 2500 trees/ ha of plants.
xiii. There are no court **cases/violation** pending with the project proponent.

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

i. The proponent may consider for reducing washing capacity 2.5 MTPA. If agreed to, the proponent has to submit a letter to this effect to the MoEF for further consideration of the EAC.
ii. Detailed action plan with approval for water abstraction be submitted;
iii. Detailed MoUs of linkages of washed coal and rejects to be sent to clients be submitted.

iv. Keeping in view that the washery is on the side of a micro-irrigation canal, proponent may consider site-1 as proposed in their report. If agreed to, a confirmation to this be submitted to the MoEF for consideration of the EAC.

v. The washery operation shall be a closed system with wagon loading arrangement.

17.26 Parsa East and KantaBasan Opencast Mine and pit head coal washery (10 MTPA to 15 MTPA in an ML area of 27.11.034 ha) of M/s Rajasthan RajyaVidyutUtpadan Nigam Ltd., of Hasdeo-Arand Coalfields in Tehsil Udaypur, Dist. Sarguja, Chhattisgarh – TOR

17.26.1 The EAC noted that the earlier EC granted to the proponent was under judicial consideration of the NGT wherein the Tribunal had set aside the Forest Clearance and also directed the MoEF (FC Division) for consideration on several issues The Proponent had appealed in the Supreme Court against the judgement of the NGT. The matter was stayed by the Supreme Court with the direction that " all work commenced by the appellant pursuant to the order dated 28th March, 2012 passed by the State of Chhatisgarh under Section 2 of the Forest Conservation Act, 1980 shall stand suspended till further orders are passed by the Ministry of Environment and Forests". The FC Division of the MoEF had listed the proposal for consideration of FAC in April, 2014 wherein the FAC had recommended that since the matter is a subjudiced decision the matter may be deferred. The comments of the FC Division was sought in this regard which intimated that, the FAC did not consider any fresh proposal from the Parsa East and Kanta Basan Opencast Mine and pit head coal washery. Keeping these information in view, the EAC presumed that the NGT matter is relating to the proposal to which the EC has already been granted by the MoEF and that the present proposal under consideration is not subjudice. The EAC considered the proposal from technical angle and was of the view that the decision of the EAC shall be subject to the outcome of the judgment of Hon'ble Supreme Court.

17.26.2 The Committee asked the proponent why it has not intimated the fact that the matter is in the Court. The proponent has submitted, with regret, that the non-mentioning of information in form-1 of the application was unintentional. Th eproponnet further submitted that it has submitted the correct information in the basic information (Sr. No. 38)on dated 21st July, 2014 and also during the meeting. The proponent further apologized for the same and assured the Committee shall not be repeated in future.

17.26.3 The proponent made the presentation and informed that:

i. The project was earlier accorded EC vide letter no. J-11015/03/2008-IA.II (M) dated 21.12.2011 to Parsa East and Kanta Basan Opencast Mine (10 MTPA) and Coal Washery (10 MTPA) of M/s Rajasthan Rajya Vidyut Utpadan Nigam Ltd., of Hasdeo-Arand Coalfields in Tehsil Udaipur, Dist. Sarguja, Chhattisgarh and corrigendum was issued on 22.06.2012. For permission to set up an interim washery of 2 MTPA capacity based on Barrel washing technology for washing initial production till the main Jig Washery is commissioned was considered in the 55th EAC meeting held on 27-28 August, 2012 and amendment was issued on 04.03.2013.

ii. The latitude and longitude of the project are 22^0 47' 39" N & 22^0 51'12"Nand 82^0 46'38"E & 82^0 50' 51"E respectively.

iii. There is no Joint Venture.

iv. Coal Linkage: Chhabra (Unit 3&4) & Kalisindh (Unit 1 &2) Sub Criticle Project (8.5 MTPA) and Suratgarh (Unit 7&8) &Chhabra (Unit 5&6) (6.5 MTPA).

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

Pre-Mining:

Name of the Village	Total Area (Ha.)	Land use pattern of land proposed to be acquired						Total Land (in Ha)
		Forest Land(Ha)			Govt Land (Ha)	Tenancy Land(Ha)		
		Revenue Forest		Protected forests		Adiwasi	Non Adiwasi	
		ChhoteJhharka Jungle	Bade Jhharka Jungle					
Salhi	1171.00	16.817	-	59.378	14.879	23.973	1.469	116.516
Hariharpur	441.00	2.768	19.321	110.156	10.187	34.815	0.735	177.942
Parsa	1266.00	50.378	8.542	138.036	18.320	100.398	12.533	328.207
Kanta	1284.00	83.380	0.782	505.928	14.890	194.387	0.089	799.456
Ghatbarra	2447.00	61.660	0.611	706.783	52.256	212.217	121.547	1155.085
Porigiya	3956.00	-	-	128.130	-	-	-	128.130
Basan	1519.00	-	-	5.698	-	-	-	5.698
Total		214.963	29.256	1654.109	110.54	565.790	136.373	2711.03

Post- Mining:

Sl. No.	Description	Land use (Ha)				
		Plantation	Water body	Public use	Grass/Green Belt	Total
1	External waste dumps	142.95				142.95
2	Excavation (backfill)	2127.56	260.970			2388.52
3	Built-up area (Infrastructure), Coal washery, Rail & Road, Corridor, Reject based Power Plant	26.60		97.08	9.32	133.00
4	Rationalization/ Plantation Area	18.35		2.000		20.35
5	Colony Area	5.24		18.35	2.62	26.21
	Total	2320.70	260.970	117.43	11.94	2711.03

Core area:

Sl. No.	PARTICULAR	AREA (Ha)
A	Mining Lease	
	Quarry Area And Barrier	2388.525
	Sub Total (A)	2388.525
B	Additional Land	
	External Dump	142.950
	Washer	28.440
	Colony	26.210
	Rail & Road Corridor	39.840

	Infrastructure	17.240
	Rationalisation/Plantation	20.350
	Reject Base Power Plant	47.479
	Sub Total (B)	322.509
	TOTAL (A+B)	2711.034

iv. The total geological reserve is 516.40 MT. The mineable reserve 452.46 MT, extractable reserve is 452.46 MT. The per cent of extraction would be 87.62 %.

v. The coal grade is Average-F. The stripping ratio is 1:5.24. The average Gradient is 4^0 (1 in 15). There will be 3 seams with thickness ranging upto 2.27 m to 9.72 m..

vi. The total estimated water requirement is 11,650 m^3/day. The level of ground water ranges from Pre-monsoon 3.50 to 8.20 m bgl to Post-monsoon 0.30 to 3.20 m bgl

vii. The Method of mining would be by Overburden removal by shovel-dumper and Coal Wining by surface miner.

viii. There are 2 external OB dump with Quantity of 52.07 Mbcm in an area of 164.259 ha with height of 45m above ground level and 2 internal dump with Quantity of 2316.65 Mbcm in an area of 2127.56 ha.

ix. The final mine void would be in 260 Ha with depth of 225 m. Backfilled quarry area of 2127.555 Ha shall be reclaimed with plantation. A void of 260.97 ha with depth of 30 m which is proposed to be converted into a water body

x. The **life of mine** is 34 Years.

xi. **Transportation**: Coal transportation in pit : Initially by rear dump trucks & then by covered belt Conveyors, Surface to Siding by covered belt conveyors (CHP to Washery) and loading to siding by Washed Coal will be transported by covered belt conveyor to in motion wagon loading silos for loading into wagons.

xii. There is **R & R** involved. There are no PAFs.

xiii. **Cost**: Total capital cost of the project is Rs. 2369 Crores. CSR Cost Rs.10 crores/year. R&R Cost Rs. 82 Crore. Environmental Management Cost (capital cost Rs 14.60 crores, annual recurring cost Rs. 3.50 crores).

xiv. **Water body**: Atem Nadi, 2.7 Km North of the Mine, Core zone is drained by Parsa Nala which joins the Atem Nadi.

xv. **Approvals**: Ground water clearance applied on 23.09.2009, Board's approval obtained on 22.02.2012 . Mining plan has been approved on 19.11.2013. Mine Closure Plan approval on 19.11.2013.

xvi. **Wildlife issues**: No Wildlife Sanctuary found within 10 km radius. However, Wildlife Management Plan approved by PCCF (WL) on 06th June 2013 & budgetary provision earmarked Rs. 220 Lakh..

xvii. **Forestry issues**: Total forest area involved 1898.328 ha for mining. Forest Clearance obtained vide letter no. 8-31/2010 –FC dated 15th March, 2012. Total afforestation plan shall be implemented covering an area of 2320.70 ha at the end of mining. Green Belt over an area of 11.94ha. Density of tree plantation 2500 trees/ ha of plants.

xviii. **Court Case Pending**: Hon'ble National Green Tribunal(NGT) passed the Order dated 24.03.2014 in the Appeal No. 73 of 2012 ("Impugned Order"), wherein the Hon'ble Tribunal set-aside the Prior Approval under Section 2 of the Forest (Conservation) Act, 1980 dated 23.06.2011 granted by the Minister of State for Environment and Forests

("Minister's Order") as well as the consequential Forest Clearance under Section 2 of the Forest (Conservation) Act, 1980 ("Forest Act") dated 28.03.2012 for diversion of forest land of PEKB Coal Block. Additionally, the Hon'ble Tribunal was pleased to remand the case back to the MoEF with directions to seek fresh advice of the Forest Advisory Committee ("FAC") within reasonable time and thereafter to pass a reasoned order in light of the advice given by the FAC and pass appropriate order in accordance with law.The Hon'ble Supreme Court issued notice dated 28.04.2014 in Civil Appeal No. 4395 of 2014 and stay the direction in the impugned order that all works commenced by the appellant (RVUNL) pursuant to the order dated 28th March 2012 passed by the State of Chhattisgarh under Section 2 of the Forest Conservation Act,1980 shall stand suspended till further orders are passed by the Ministry of Environment and Forests.

17.26.4: The EAC has received a representation from one of the NGOs with regard to the litigation and expansion issues. The proponent has responded to the litigation cases and also further submitted that the Coal Handling Plant and Washery are integrated and they possess all pollution control measures like dust extraction system at crushing point, water sprinkling arrangement at all transfer points, and shall provide adequate air pollution control measures at the mine as well as at the washery to ensure compliance with the standards.

17.26.5 **The Committee, after detailed deliberations, recommended for granting ToR with the following specific ToRs, subject to the outcome of the judgment of Hon'ble Supreme Court:**

i. Closed conveyors in CHP be in place and review of processing 15 MTPA to 10 MTPA wahery.
ii. Dust extraction system with bag filter at crushing points in CHP to be established.
iii. Water sprinkling in all the transfer points be established.
iv. Mobile water sprinklers on roads be provided.
v. Static water sprinklers on internal road be provided.
vi. Development of green belt around the critical air polluting points of the Mine and pit head coal washery

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

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Annexure 1

LIST OF PARTICIPANTS OF EAC IN 17th MEETING OF EXPERT APPRAISAL COMMITTEE (EAC) (THERMAL & COAL MINING) HELD ON 23rd -25th July, 2014 IN NEW DELHI.

Sl. No.	Name of Members	
1.	Prof. C.R. Babu	Member
2.	Dr. T. K .Dhar	Member
3.	Shri Jawahar Lal Mehta	Member
4.	Shri N. K. Verma	Member
5.	Shri G. S. Dang	Member
6.	Shri A. K. Bansal	Member
7.	Dr. G. R. Rathnavel	Member
8.	Dr. Shankar Bala	CPCB Member
9.	Dr. Manoranjan Hota	Director & Member Secretary
10.	Shri. P. R. Sakhare	Deputy Director

Annexure 2

LIST OF PROPONENTS PARTICIPATED IN THE 17th EXPERT APPRAISAL COMMITTEE (EAC) (THERMAL & COAL MINING) MEETING HELD ON 23rd - 25th July, 2014 ON COAL SECTOR PROJECTS.

17.1 Bhelatand Amalgamated Colliery &Expn. of Bhelatand Washery of M/s Tata Steel Ltd.

1. Dr. M. K. Chaudhary
2. Dr. M. K. Gupta
3. Dr. M. Ahmad
4. Shri Jasbir Singh
5. Shri Mukesh Kumar Prasad
6. Shri Manish Mishra
7. Shri Ajay Sahay
8. Shri Sunil Kejerwani
9. Shri Prabin Kumar

17.2 Manuguru Opencast IV Extension Project of M/s The Singareni Collieries Company Ltd.

1. Shri A. Manohar Rao
2. Shri Surendra Pandey
3. Shri M. Vasanth Kumar
4. Shri P. Sharath Kumar
5. Shri N. Bhaskar

17.3 Dugda NLW Coal Washery M/s Bharat Coking Coal Ltd.

1. Shri D. C. Jha
2. Shri Y. K. Sinha
3. Dr. E. V. R. Raju
4. Shri Kumar Rajeev
5. Shri Bipin Kumar Singh
6. Shri Amit Raj

17.4 Ghonsa OCP expansion of M/s Western Coalfield Ltd.

1. Shri S. S. Nalhi
2. Md. Noor Uddin
3. Shri S. K. Jagnania
4. Shri R. M. Wanare
5. Shri K. Chakorborty

17.5 Pauni opencast expansion of M/s Western coalfield Limited.

1. Shri S. S. Nalhi
2. Md. Noor Uddin
3. Shri S. K. Jagnania
4. Shri R. M. Wanare
5. Shri K. Chakorborty

17.6 Bhatadi OC Expn. Project of M/s Western Coalfields Ltd.

1. Shri S. S. Nalhi
2. Md. Noor Uddin
3. Shri S. K. Jagnania
4. Shri R. M. Wanare
5. Shri K. Chakorborty

17.7 Hindustan LalpethExpn. Opencast Mine Project of M/s Western Coalfields Ltd.

1. Shri S. S. Nalhi
2. Md. Noor Uddin
3. Shri S. K. Jagnania
4. Shri R. M. Wanare
5. Shri K. Chakorborty

17.8 Lingraj OCP Expn. Of M/s Mahanadi Coalfields Ltd.

1. Shri C. Jayadev
2. Shri D. Bhattacharya
3. Shri K. S. Ganapatty
4. Shri Jitendra Singh
5. Shri Amrit Sinha
6. Shri J. P. Singh

17.9 Cluster no. 6 mixed mines project of M/s Eastern Coalfield Limited.

1. Shri J. N. Biswal
2. Shri G. Prasad
3. Shri A. Shekhar
4. Shri S. Kundra
5. Shri S. Chakraborty
6. Shri S. K. Sinha
7. Shri S. Chakraborty
8. Shri Abhishek Kumar Singh

17.10 Cluster no. 7 of M/s Eastern Coalfield Limited.

1. Shri J. N. Biswal
2. Shri G. Prasad
3. Shri A. Shekhar
4. Shri S. Kundra
5. Shri S. Chakraborty
6. Shri S. K. Sinha
7. Shri S. Chakraborty
8. Shri Abhishek Kumar Singh

17.11 Cluster no. 2 group of mixed mines project of M/s Eastern Coalfield Limited.

1. Shri J. N. Biswal
2. Shri G. Prasad

3. Shri A. Shekhar
4. Shri S. Kundra
5. Shri S. Chakraborty
6. Shri S. K. Sinha
7. Shri S. Chakraborty
8. Shri Abhishek Kumar Singh

17.12 Cluster no. 8 of M/s Eastern Coalfield Limited.

1. Shri J. N. Biswal
2. Shri G. Prasad
3. Shri A. Shekhar
4. Shri S. Kundra
5. Shri S. Chakraborty
6. Shri S. K. Sinha
7. Shri S. Chakraborty
8. Shri Abhishek Kumar Singh

17.13 Cluster 12 comprising of 19 mixed mines project of M/s Eastern Coalfield Limited.

1. Shri J. N. Biswal
2. Shri G. Prasad
3. Shri A. Shekhar
4. Shri S. Kundra
5. Shri S. Chakraborty
6. Shri S. K. Sinha
7. Shri S. Chakraborty
8. Shri Abhishek Kumar Singh

17.14 Giral Lignite Mines project of M/s Rajasthan State Mines & Minerals Ltd.

1. Dr. Aman Sharma
2. Shri R. V. Ramane
3. Shri R. K. Zoshi
4. Shri R. K. Varma
5. Shri P. R. Gehlot
6. Shri K. C. Sharma

17.15 Nigahi Opencast Expansion Coal Mining Project of M/s Northern Coalfields Ltd.

1. Shri Niranjan Das
2. Shri N. Dupattawala
3. Shri Atal Bihari
4. Shri S. N. Sinha
5. Shri Prabhu Prasad
6. Shri D. Srivastava
7. Shri A. K. Gupta
8. Shri S. P. Mandal

17.16 Devangudi Lignite Mine Project of M/s Neyveli Lignite Corp. Ltd.
Absent

17.17 Mata-Na-Madh Lignite Mine Project of M/s Gujarat Mineral Development Corp. Ltd.

1. Dr. D. A.
2. Shri H. K. Joshi
3. Shri B. P. Pati
4. Shri Amrish Pal
5. Shri B. D. Sharma
6. Ms. Marisa Sharma

17.18 Bhivkund Opencast Coal Mining Project of M/s Maharashtra State Power Co. Ltd.

Absent

17.19 Kapurdi Lignite Open Cast Mine project of M/s Barmer Lignite Mining Company Ltd.

1. Shri V. S. Khatri
2. Shri Harsha Vardhan
3. Shri Pramod Menon
4. Shri Umesh Gupta
5. Shri B. D. Sharma
6. Shri S. Sayam
7. Shri Amrendra Kumar
8. Shri Anoop Vaish
9. Shri G. Koley
10. Ms. Marisa Sharma

17.20 Kulti coal block project of M/s West Bengal Mineral Development & Trading Corp. Ltd.

1. Shri Ranjan Kumar
2. Shri N. K. Prasad
3. Shri Amar Prakash
4. Shri Shantanu
5. Shri Jai Shankar Balan
6. Shri Arindam Shome
7. Shri Purnendu Pandey
8. Ms. Marisa Sharma
9. Shri B. D. Sharma

17.21 Sitarampur coal block project of M/s West Bengal Mineral Development & Trading Corp. Ltd.

1. Shri Ranjan Kumar
2. Shri N. K. Prasad
3. Shri Amar Prakash
4. Shri Shantanu
5. Shri Jai Shankar Balan
6. Shri Arindam Shome
7. Shri Purnendu Pandey
8. Ms. Marisa Sharma
9. Shri B. D. Sharma

17.22 Bikram Coalmine Project of M/s Birla Corp. Ltd.

1. Shri V. K. Sethi
2. Shri S. S. Davy
3. Shri B. D. Sharma
4. Shri S. Sankar
5. Shri D. Datta
6. Ms. Marisa Sharma
7. Shri V. P. Thergaonkar

17.23 Mahuagarhi opencast Coal Mining Project of M/s Mahuagarhi Coal Company Private Ltd.

1. Shri Ashish Shukla
2. Shri Prashel Shukla
3. Shri Ravi Kumar V.
4. Shri Ashish Gupta
5. Shri P. K. Pal
6. Shri T. K. Natta
7. Shri P. Sen
8. Shri Jitender Negi

17.24 SuliyariBelwar Opencast Coal Mine project (Ph-I) of M/s Andhra Pradesh Mineral Development Corp. Ltd.

1. Shri H. D. Nagaraja
2. Shri M. Vasanth Kumar
3. Shri M. Prasad
4. Shri M. Mallikarjun
5. Dr. Durga Vara Prasad
6. Shri Sarat Kumar
7. Shri N. V. R. Prahlad
8. Shri Ravi Joshi

17.25 Coal Washery project of M/s Hind Multi Services Pvt. Ltd.

1. Shri Abhik Mukhopadhyay
2. Shri D. S. Ramteke
3. Shri Pawan Agarwal
4. Shri Prag Khijnare

17.26 Parsa East and Kanta Basan Opencast Mine and pit head coal washery of M/s Rajasthan Rajya Vidyut Utpadan Nigam Ltd.

1. Shri N. M. Modhir
2. Shri Uma Shankar
3. Shri M. K. Thapar
4. Shri Vikram Vyas
5. Shri K. K. Jain
6. Shri G. V. Rao

7. Shri B. S. Sodhi
8. Shir K. R. Singh
9. Shri M. Janardhan
10. Shri G. V. Ragisava Rao
11. Dr. Pramod Kumar
12. Shri Atul Tiwari
13. Shri Man Mohan Bisht
14. Shri Harsh Niwas

ANNEXURE-3

GENERIC TOR FOR COAL WASHERY

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

(i) A brief description of the plant, the technology used, the source of coal, the mode of transport of incoming unwashed coal and the outgoing washed coal. Specific pollution control and mitigative measures for the entire process.

(ii) The EIA-EMP report should cover the impacts and management plan for the project of the capacity for EC is sought and the impacts of specific activities on the environment of the region, and the environmental quality ?air, water, land, biotic community, etc. through collection of data and information, generation of data on impacts for the rated capacity. If the washery is captive to a coal mine/TPP/Plant the cumulative impacts on the environment and usage of water should be brought out along with the EMP.

(iii) A Study area map of the core zone and 10km area of the buffer showing major industries/mines and other polluting sources, which shall also indicate the migratory corridors of fauna, if any and the areas where endangered fauna and plants of medicinal and economic importance are found in the area. If there are any ecologically sensitive areas found within the 15km buffer zone, the shortest distance from the National Park/WL Sanctuary Tiger Reserve, etc should be shown and the comments of the Chief Wildlife Warden of the State Government should be furnished.

(iv) Collection of one-season (non-monsoon) primary base-line data on environmental quality ?air (PM_{10}, $PM_{2.5}$, SOx and NOx), noise, water (surface and groundwater), soil.

(iv) Detailed water balance should be provided. The break-up of water requirement as per different activities in the mining operations vis-à-vis washery should be given separately. Source of water for use in mine, sanction of the competent authority in the State Govt..and examine if the unit can be zero discharge including recycling and reuse of the wastewater for other uses such as green belt, etc.

(vi) Impact of choice of the selected use of technology and impact on air quality and waste generation (emissions and effluents).

(vii) Impacts of mineral transportation - the entire sequence of mineral production, transportation, handling, transfer and storage of mineral and waste, if any, and their impacts on air quality should be shown in a flow chart with the specific points where fugitive emissions can arise and the specific pollution control/mitigative measures proposed to be put in place.

(viii) Details of various facilities to be provided for the personnel involved in mineral transportation in terms of parking, rest areas, canteen, and effluents/pollution load from these activities. Examine whether existing roads are adequate to take care of the additional load of mineral [and rejects] transportation, their impacts. Details of workshop, if any, and treatment of workshop effluents.

(ix) Impacts of CHP, if any on air and water quality. A flow chart of water use and whether the unit can be made a zero-discharge unit.

(x) Details of green belt development.

(xi) Including cost of EMP (capital and recurring) in the project cost.

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

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

(xvi) Submission of sample test analysis of:

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

ii. Characteristics and quantum of washed coal.
iii. Characteristics and quantum of coal waste rejects.

(xvii) Management/disposal/Use of coal waste rejects

(xviii) Copies of MOU/Agreement with linkages (for stand-alone washery) for the capacity for which EC has been sought.

(xxxvi) Submission of sample test analysis of:

Characteristics of coal to be washed- this includes grade of coal and other characteristics, ash, S

(xxxviii) Corporate Environment Responsibility:

a) The Company must have a well laid down Environment Policy approved by the Board of Directors.

b) The Environment Policy must prescribe for standard operating process/procedures to bring into focus any infringements/deviation/violation of the environmental or forest norms/conditions.

c) The hierarchical system or Administrative Order of the company to deal with environmental issues and for ensuring compliance with the environmental clearance conditions must be furnished.

d) To have proper checks and balances, the company should have a well laid down system of reporting of non-compliances/violations of environmental norms to the Board of Directors of the company and/or shareholders or stakeholders at large.

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ANNEXURE -4

GENERIC TOR FOR AN OPENCAST COALMINE PROJECT

(i) An EIA-EMP Report would be prepared for **??.. MTPA** rated capacity in an ML/project area of ??ha based on the generic structure specified in Appendix III of the EIA Notification 2006.

(ii) An EIA-EMP Report would be prepared for ??. MTPA rated capacity cover the impacts and management plan for the project specific activities on the environment of the region, and the environmental quality ?air, water, land, biotic community, etc. through collection of data and information, generation of data on impacts including prediction modelling for **???. MTPA** of coal production based on approval of project/Mining Plan for ???MTPA. Baseline data collection can be for any season except monsoon.

(iii) A map specifying locations of the State, District and Project location.

(iv) A Study area map of the core zone and 10km area of the buffer zone (1: 50,000 scale) clearly delineating the major topographical features such as the land use, surface drainage of rivers/streams/nalas/canals, locations of human habitations, major constructions including railways, roads, pipelines, major industries/mines and other polluting sources. In case of ecologically sensitive areas such as Biosphere Reserves/National Parks/WL Sanctuaries/ Elephant Reserves, forests (Reserved/Protected), migratory corridors of fauna, and areas where endangered fauna and plants of medicinal and economic importance found in the 15 km area of the buffer zone should be given.

(v) Land use map (1: 50,000 scale) based on a recent satellite imagery of the study area may also be provided with explanatory note of the land use. Satellite imagery per se is not required.

(vi) Map showing the core zone delineating the agricultural land (irrigated and unirrigated, uncultivable land (as defined in the revenue records), forest areas (as per records), along with other physical features such as water bodies, etc should be furnished.

(vii) A contour map showing the area drainage of the core zone and 2-5 km of the buffer zone (where the water courses of the core zone ultimately join the major rivers/streams outside the lease/project area) should also be clearly indicated as a separate map.

(viii) A detailed Site plan of the mine showing the various proposed break-up of the land for mining operations such as the quarry area, OB dumps, green belt, safety zone, buildings, infrastructure, CHP, ETP, Stockyard, township/colony (within and adjacent to the ML), undisturbed area and if any, in topography such as existing roads, drains/natural water bodies are to be left undisturbed along with any natural drainage adjoining the lease /project and modification of thereof in terms of construction of embankments/bunds, proposed diversion/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

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

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

(xii) Break-up of lease/project area as per mining operations.

(xiii) Impact of changes in the land use due to the start of the projects if much of the land being acquired is agricultural land/forestland/grazing land.

(xiv) Collection of one-season (non-monsoon) primary baseline data on environmental quality - air (PM_{10}, $PM_{2.5}$, SO_x, $NO_x$and heavy metals such as Hg, Pb, Cr, As, etc), noise, water (surface and groundwater), soil along with one-season met data coinciding with the same season for AAQ collection period.

(xv) Map of the study area (1: 50, 000 scale) (core and buffer zone clearly delineating the location of various stations superimposed with location of habitats, other industries/mines, polluting sources. The number and location of the stations in both core zone and buffer zone should be selected on the basis of size of lease/project area, the proposed impacts in the downwind (air)/downstream (surface water)/groundwater regime (based on flow). One station should be in the upwind/upstream/non-impact/non-polluting area as a control station. The monitoring should be as per CPCB guidelines and parameters for water testing for both ground water and surface water as per ISI standards and CPCB classification wherever applicable. Values should be provided based on desirable limits.

(xvi) Study on the existing flora and fauna in the study area (10km) carried out by an institution of relevant discipline and the list of flora and fauna duly authenticated separately for the core and buffer zone and a statement clearly specifying whether the study area forms a part of the migratory corridor of any endangered fauna. If the study area has endangered flora and fauna, or if the area is occasionally visited or used as a habitat by Schedule-I fauna, or if the project falls within 15 km of an ecologically sensitive area, or used as a migratory corridor then a comprehensive Conservation Plan should be prepared and submitted with EIA-EMP Report and comments from the CWLW of the State Govt. also obtained and furnished.

(xvii) Details of mineral reserves, geological status of the study are and the seams to be worked, ultimate working depth and progressive stage-wise working scheme until end of mine life should be reflected on the basis of the approved rated capacity and calendar plans of production from the approved Mining Plan. Geological maps and sections should be included. The progressive mine development and Conceptual Final Mine Closure Plan should also be shown in figures.

(xviii) Details of mining methods, technology, equipment to be used, etc., rationale for selection of that technology and equipment proposed to be used vis-à-vis the potential impacts.

(xix) Impact of mining on hydrology, modification of natural drainage, diversion and channelling of the existing rivers/water courses flowing though the ML and adjoining the lease/project and the impact on the existing users and impacts of mining operations thereon.

(xx) Detailed water balance should be provided. The break up of water requirement for the various mine operations should be given separately.

(xxi) Source of water for use in mine, sanction of the competent authority in the State Govt. and impacts vis-à-vis the competing users.

(xxii) Impact of mining and water abstraction use in mine on the hydrogeology and groundwater regime within the core zone and 10 km buffer zone including long?termmodelling studies on. Details of rainwater harvesting and measures for recharge of groundwater should be reflected in case there us a declining trend of groundwater availability and/or if the area falls within dark/grey zone.

(xxiii) Impact of blasting, noise and vibrations.

(xxiv) Impacts of mining on the AAQ, predictive modelling using the ISCST-3 (Revised) or latest model.

(xxv) Impacts of mineral transportation ?within and outside the lease/project along with flow-chart indicating the specific areas generating fugitive emissions. Impacts of transportation, handling, transfer of mineral and waste on air quality, generation of effluents from workshop, management plan for maintenance of HEMM, machinery, equipment. Details of various facilities to be provided in terms of parking, rest areas, canteen, and effluents/pollution load from these activities.

(xxvi)Details of waste generation ?OB, topsoil ? as per the approved calendar programme, and their management shown in figures as well explanatory chapter with tables giving progressive development and mine closure plan, green belt development, backfilling programme and conceptual post mining land use. OBdump heights and terracing should based on slope stability studies with a max of 28^{o} angle as the ultimate slope. Sections of dumps (ultimate) (both longitudinal and cross section) with relation to the adjacent area should be shown.

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

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

S.N.	**Land use Category**	**Present (1^{st} Year)**	**5^{th} Year**	**10^{th} Year**	**20^{th} year**	**24^{th} Year (end of Mine life)***
1.	Backfilled Area(Reclaimed with plantation)					
2.	Excavated Area (not reclaimed)/void					
3.	External OB dump Reclaimed with plantation)					
4.	Reclaimed Top soil dump					
5.	Green Built Area					
6.	Undisturbed area (brought under plantation)					
7.	Roads (avenue plantation)					
8.	Area around buildings and Infrastructure					
	TOTAL	110*	110*	110*	110*	110*

* As a representative example

Table 2: Stage-wise Cumulative Plantation

S.N.	**YEAR***	**Green Belt**		**External Dump**		**Backfilled Area**		**Others (Undisturbed Area/etc)**		**TOTAL**	
		Area (ha)	No. of trees	Area (ha)	No. of Trees	Area (ha)	No. of Trees	Area (ha)	No. of Trees	Area (ha)	No. of Trees
1.	1^{st} year										
2.	3^{rd} year										
3.	5^{th} year										
4.	10^{th} year										
5.	15^{th} year										

6.	20th year										
7.	25th year										
8.	30th year										
9.	34th year (end of mine life)										
10.	34-37th Year (Post-mining)									85	

* As a representative example

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

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

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

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

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

(xxxi) Risk Assessment and Disaster Preparedness and Management Plan.

(xxxii) Integrating in the Env. Management Plan with measures for minimising use of natural resources - water, land, energy, etc.

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

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

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

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

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

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

(xxxxi) Submission of sample test analysis of:

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

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

(A) FORESTRY CLEARANCE

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

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ANNEXURE -5

GENERIC TOR FOR AN UNDERGROUND COALMINE PROJECT

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

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

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

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

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

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

S.N.	ML/Project Land use	Area under Surface Rights (ha)	Area Under Mining Rights (ha)	Area under Both (ha)
1.	Agricultural land			
2.	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 though the ML and adjoining the lease/project and the impact on the existing users and impacts of mining operations thereon.

(x) Collection of one-season (non-monsoon) primary baseline data on environmental quality ? air (PM_{10}, $PM_{2.5}$, SO_x, NO_x and heavy metals such as Hg, Pb, Cr, AS, etc), noise, water (surface and groundwater), soil along with one-season met data.

(xi) Map of the study area (core and buffer zone) clearly delineating the location of various monitoring stations (air/water/soil and noise ? each shown separately) superimposed with location of habitats, wind roses, other industries/mines, polluting sources. The number and location of the stations should be selected on the basis of the proposed impacts in the downwind/downstream/groundwater regime. One station should be in the upwind/upstream/non-impact non-polluting area as a control station. Wind roses to determine air pollutant dispersion and impacts thereof shall be determined. Monitoring should be as per CPCB guidelines and standards for air, water, noise notified under Environment Protection Rules. Parameters for water testing for both ground and surface water should be as per ISI standards and CPCB classification of surface water wherever applicable.

(xii) Impact of mining and water abstraction and mine water discharge in mine on the hydrogeology and groundwater regime within the core zone and 10km buffer zone including long?termmodelling studies on the impact of mining on the groundwater regime. Details of rainwater harvesting and measures for recharge of groundwater should be reflected wherever the areas are declared dark/grey from groundwater development.

(xiii) Study on subsidence, measures for mitigation/prevention of subsidence, modelling subsidence prediction and its use during mine operation, safety issues.

(xiv) Detailed water balance should be provided. The break up of water requirement as per different activities in the mining operations, including use of water for sand stowing should be given separately. Source of water for use in mine, sanction of the competent authority in the State Govt. and impacts vis-à-vis the competing users should be provided.

(xv) Impact of choice of mining method, technology, selected use of machinery - and impact on air quality, mineral transportation, coal handling & storage/stockyard, etc, Impact of blasting, noise and vibrations.

(xvi) Impacts of mineral transportation ?within and outside the lease/project. The entire sequence of mineral production, transportation, handling, transfer and storage of mineral and waste, and their impacts on air quality should be shown in a flow chart with the specific points where fugitive emissions can arise and the specific pollution control/mitigative measures proposed to be put in place. Examine the adequacy of roads existing in the area and if new roads are proposed, the impact of their construction and use particularly if forestland is used.

(xvii) Details of various facilities to be provided in terms of parking, rest areas, canteen, and effluents/pollution load from these activities. Examine whether existing roads are adequate to take care of the additional load of mineral and their impacts.

(xviii) Examine the number and efficiency of mobile/static water sprinkling system along the main mineral transportation road within the mine, approach roads to the mine/stockyard/siding, and also the frequency of their use in impacting air quality.

(xix) Impacts of CHP, if any on air and water quality. A flow chart of water use and whether the unit can be made a zero-discharge unit.

(xx) Conceptual Final Mine Closure Plan along with the fund requirement for the detailed activities proposed there under. Impacts of change in land use for mining operations and whether the land can be restored for agricultural use post mining. \

Table 1 Stage-wise Cumulative Plantation

S.N.	**YEAR***	**Green Belt**		**External Dump**		**Backfilled Area**		**Others (Undisturbed Area/etc)**		**TOTAL**	
		Area (ha)	No. of trees	Area (ha)	No. of Trees	Area (ha)	No. of Trees	Area (ha)	No. of Trees	Area (ha)	No. of Trees
1.	1st year										
2.	3rd year										
3.	5th year										
4.	10thyesr										
5.	15thyear										
6.	20th year										
7.	25th year										
8.	30th year										
9.	34th year (end of mine life)										
10.	34-37th Year (Post-mining)									85*	2,12,500

*As a representative example

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

(xxii) Details of cost of EMP (capital and recurring) in the project cost and for final mine closure plan. The specific costs (capital and recurring) of each pollution control/mitigative measures proposed in the project until end of mine life and a statement that this is included in the project cost.

(xxiii) Integrating in the Env. Management Plan with measures for minimising use of natural resources ?water, land, energy, raw materials/mineral, etc.

(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.

(xxxvii) 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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ANNEXURE-6

GENERIC TOR FOR AN OPENCAST-CUM-UNDERGROUND COALMINE PROJECT

(i) An EIA-EMP Report would be prepared for a combined rated capacity of**??..**MTPA for OC-cum-UG project which consists of ??. MTPA for OC and ???. MTPA for UG in an ML/project area of ??ha based on the generic structure specified in Appendix III of the EIA Notification 2006.

(ii) An EIA-EMP Report would be prepared for ??. MTPA rated capacity cover the impacts and management plan for the project specific activities on the environment of the region, and the environmental quality ?air, water, land, biotic community, etc. through collection of data and information, generation of data on impacts including prediction modelling for ???. MTPA of coal production based on approval of project/Mining Plan for ??.. MTPA. Baseline data collection can be for any season except monsoon.

(iii) A map specifying locations of the State, District and Project location.

(iv) A Study area map of the core zone and 10km area of the buffer zone (1: 50,000 scale) clearly delineating the major topographical features such as the land use, surface drainage of rivers/streams/nalas/canals, locations of human habitations, major constructions including railways, roads, pipelines, major industries/mines and other polluting sources. In case of ecologically sensitive areas such as Biosphere Reserves/National Parks/WL Sanctuaries/ Elephant Reserves, forests (Reserved/Protected), migratory corridors of fauna, and areas where endangered fauna and plants of medicinal and economic importance found in the 15 km area of the buffer zone should be given.

(v) Land use map (1: 50,000 scale) based on a recent satellite imagery of the study area may also be provided with explanatory note of the land use. Satellite imagery per se is not required.

(vi) Map showing the core zone delineating the agricultural land (irrigated and unirrigated, uncultivable land (as defined in the revenue records), forest areas (as per records), along with other physical features such as water bodies, etc should be furnished.

(vii) A contour map showing the area drainage of the core zone and 2-5 km of the buffer zone (where the water courses of the core zone ultimately join the major rivers/streams outside the lease/project area) should also be clearly indicated as a separate map.

(viii) A detailed Site plan of the mine showing the various proposed break-up of the land for mining operations such as the quarry area, OB dumps, green belt, safety zone, buildings, infrastructure, CHP, ETP, Stockyard, township/colony (within and adjacent to the ML), undisturbed area and if any, in topography such as existing roads, drains/natural water bodies are to be left undisturbed along with any natural drainage adjoining the lease /project and modification of thereof in terms of construction of embankments/bunds, proposed diversion/rechannelling of the water courses, etc., approach roads, major haul roads, etc.

(ix) In case of any proposed diversion of nallah/canal/river, the proposed route of diversion/modification of drainage and their realignment, construction of embankment etc. should also be shown on the map.

(x) Similarly if the project involves diversion of any road/railway line passing through the ML/project area, the proposed route of diversion and its realignment should be shown.

(xi) Break up of lease/project area as per different land uses and their stage of acquisition.

LANDUSE DETAILS FOR OPENCAST PROJECT

S.N.	**LANDUSE**	**Within ML Area (ha)**	**Outside ML Area (ha)**	**TOTAL (ha)**
1.	Agricultural land			

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

LANDUSE DETAILS FOR UNDERGROUND PROJECT

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

Area Under Surface Rights

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

(xii) Break-up of lease/project area as per mining operations.

(xiii) Impact of changes in the land use due to the start of the projects if much of the land being acquired is agricultural land/forestland/grazing land.

(xiv) Collection of one-season (non-monsoon) primary baseline data on environmental quality - air (PM_{10}, $PM_{2.5}$, SO_x, NO_x and heavy metals such as Hg, Pb, Cr, As, etc), noise, water (surface and groundwater), soil along with one-season met data.

(xv) Map of the study area (1: 50, 000 scale) (core and buffer zone clearly delineating the location of various stations superimposed with location of habitats, other industries/mines, polluting sources. The number and location of the stations in both core zone and buffer zone should be selected on the basis of size of lease/project area, the proposed impacts in the downwind (air)/downstream (surface water)/groundwater regime (based on flow). One station should be in the upwind/upstream/non-impact/non-polluting area as a control station. The monitoring should be as per CPCB guidelines and parameters for water testing for both ground water and surface water as per ISI standards and CPCB classification wherever applicable. Values should be presented in comparison to desirable limits.

(xvi) Study on the existing flora and fauna in the study area (10km) carried out by an institution of relevant discipline and the list of flora and fauna duly authenticated separately for the core and

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

(xvii) Details of mineral reserves, geological status of the study are and the seams to be worked, ultimate working depth and progressive stage-wise working scheme until end of mine life should be reflected on the basis of the approved rated capacity and calendar plans of production from the approved Mining Plan. Geological maps and sections should be included. The progressive mine development and final mine closure plan should also be shown in figures.

(xviii) Details of mining methods, technology, equipment to be used, etc., rationale for selection of that technology and equipment proposed to be used vis-à-vis the potential impacts.

(xix) Study on subsidence, measures for mitigation/prevention of subsidence, modelling subsidence prediction and its use during mine operation, safety issues.

(xx) Impact of mining on hydrology, modification of natural drainage, diversion and channelling of the existing rivers/water courses flowing though the ML and adjoining the lease/project and the impact on the existing users and impacts of mining operations thereon.

(xxi) Detailed water balance should be provided. The break up of water requirement for the various mine operations should be given separately.

(xxii) Source of water for use in mine, sanction of the competent authority in the State Govt. and impacts vis-à-vis the competing users.

(xxiii) Impact of mining and water abstraction use in mine on the hydrogeology and groundwater regime within the core zone and 10 km buffer zone including long?termmodelling studies on. Details of rainwater harvesting and measures for recharge of groundwater should be reflected in case there us a declining trend of groundwater availability and/or if the area falls within dark/grey zone.

(xxiv) Impact of blasting, noise and vibrations.

(xxv) Impacts of mining on the AAQ, predictive modelling using the ISCST-3 (Revised) or latest model.

(xxvi) Impacts of mineral transportation ?within and outside the lease/project along with flow-chart indicating the specific areas generating fugitive emissions. Impacts of transportation, handling, transfer of mineral and waste on air quality, generation of effluents from workshop, management plan for maintenance of HEMM, machinery, equipment. Details of various facilities to be provided in terms of parking, rest areas, canteen, and effluents/pollution load from these activities.

(xxvii) Details of waste generation ?OB, topsoil ? as per the approved calendar programme, and their management shown in figures as well explanatory chapter with tables giving progressive development and mine closure plan, green belt development, backfilling programme and conceptual post mining land use. OBdump heights and terracing should based on slope stability studies with a max of 28^{o} angle as the ultimate slope. Sections of dumps (ultimate) (both longitudinal and cross section) with relation to the adjacent area should be shown.

(xxviii) Impact and management of wastes and issues of rehandling and backfilling and progressive mine closure and reclamation.

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

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

(xxxi) Risk Assessment and Disaster Preparedness and Management Plan.

(xxxii) Integrating in the Env. Management Plan with measures for minimising use of natural resources - water, land, energy, etc.

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

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

S.N.	Land use Category	Present (1st Year)	5th Year	10th Year	20th year	24th Year (end of Mine life)*
1.	Backfilled Area (Reclaimed with plantation)					
2.	Excavated Area (not reclaimed)/void					
3.	External OB dump Reclaimed with plantation)					
4.	Reclaimed Top soil dump					
5.	Green Built Area					
6.	Undisturbed area (brought under plantation)					
7.	Roads (avenue plantation)					
8.	Area around buildings and Infrastructure					
	TOTAL	110	110	110	110	110

* Representative case as an example

Table 2: Stage-wise Cumulative Plantation

S.N.	YEAR*	Green Belt		External Dump		Backfilled Area		Others (Undisturbed Area/etc)		TOTAL	
		Area (ha)	No. of trees	Area (ha)	No. of Trees	Area (ha)	No. of Trees	Area (ha)	No. of Trees	Area (ha)	No. of Trees
1.	1st year										
2.	3rd year										
3.	5th year										
4.	10th year										
5.	15th year										
6.	20th year										
7.	25th year										
8.	30th year										
9.	34th year (end of mine life)										
10.	34-37th Year (Post-mining)									85	

* Representative case as an example

(xxxiv) Conservation Plan for the endangered/endemic flora and fauna found in the study area and for safety of animals visiting/residing in the study area and also those using the study area as a migratory corridor.

(xxxv) Conceptual Final Mine Closure Plan, post mining land use and restoration of land/habitat to pre-mining. A Plan for the ecological restoration of the area post mining and for land use should be prepared with detailed cost provisions.

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

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

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

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

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

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

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

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

(xxxxii) Submission of sample test analysis of:

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

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

(A) FORESTRY CLEARANCE

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

		details of each FC			

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

(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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ANNEXURE-7

GENERAL CONDITIONS AND ADDITIONAL POINTS OF TOR

The following general points should be noted:

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

The following additional points are also to be noted:

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

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