Government of India
Ministry of Environment, Forest and Climate Change
IA Division
(Coal Mining)
****

सत्यमेव जयते

Minutes of 13TH EXPERT APPRAISAL COMMITTEE (COAL MINING SECTO R), SCHEDULED TO BE HELD DURING 1st July & 2nd July, 2024 THROUGH HYBRID MODE. meeting Coal Mining held from 01/07/2024 to 02/07/2024

Date: 22/07/2024

MoM ID:	EC/MOM/EAC/631422/6/2024
Agenda ID:	EC/AGENDA/EAC/631422/6/2024
Meeting Venue:	MOEF&CC
Meeting Mode:	Hybrid
Date & Time:	

01/07/2024	10:30 AM	05:30 PM
02/07/2024	10:30 AM	05:30 PM

1. Opening remarks

At the outset, the Chairman welcomed the Expert members & other participants and requested to start the proceeding as per the agenda listed for this meeting. The list of Members who participated in the meeting is at ANNEXURE IX. The Standard/Generic EC & ToR conditions shall be system generated through the PARIVESH Portal.

2. Confirmation of the minutes of previous meeting

Confirmation of the Minutes of the 12th Meeting of the EAC (Coal): The minutes of the *12th Meeting of the EAC (Coal) held during 5th & 7th June, 2024 have been confirmed by* the EAC with following corrections:

Agenda Item No. 12.4: Proposal for grant of Terms of Reference (ToR) of Kasta East Coal Mine (Lease Area 1409.026 Ha; production 1.89MTPA/2.835MTPA [Targeted/Peak]) of Jitusol Developers Private Limited, located at Villages Arjjunshuli, Barra, Bhurachak, Binodpur, Gohalia, Kankartala, Kaithi, Khajuria, Mundira, Nabasan, Nalgara, Palpai, Parsundi, Rasa, Sahapur, Shira, Tehsil/Block Khoyrasol, Dist. Birbhum, State: West Bengal for conducting studies for Environmental Clearance (EC) of the allotted coal block. – Terms of Reference – Regarding. [Proposal No. IA/WB/CMIN/466405/2024; File No J-11015/32/2024-IA-II; Consultant: Min Mec Consultancy Private Limited; NABET/EIA/2225/IA 0096 valid till 29.03.2025]

The Committee observed that in the approved MoM of 12th EAC Coal in 11th Para of section 12.4.3, it has mentioned that *"there are a total 5 nos. of nallahs passing through the lease area, out of which the PP reported that 3 nos. of Nallahs which are passing through the western part of the OC pit will be diverted by the end of 6th year"*. The Committee observed that in the aforementioned para Nallah no. 3 was recorded as 3 nos. of Nallahs. The Committee therefore of the view that the said para may be read as *" there are a total 5 nos. of nallahs passing through the lease area, out of which the PP reported that*

Nallah No 3 which is passing through the western part of the OC pit will be diverted by the end of 6th year".

3. Details of proposals considered by the committee

Day 1 -01/07/2024

3.1. Agenda Item No 1:

3.1.1. Details of the proposal

Cluster VII Coal Mining Project by **BHARAT COKING COAL LIMITED** located at **DHANBAD,JHARKHAND**			
Proposal For		Amendment in EC	
Proposal No	**File No**	**Submission Date**	**Activity (Schedule Item)**
IA/JH/CMIN/473199/2024	J-11015/238/2010-1A.Il (M)	14/06/2024	Mining of minerals (1(a))

3.1.2. Project Salient Features

13.1.2 The EAC during the deliberation observed the following:

- Earlier the Environment clearance for the project was granted under EIA Notification, 2006 vide Ministry's letter no. J-11015/238/2010-IA.II (M) dated 06.02.2013 for a capacity of 8.16 MTPA in an area of 2127.70 Ha. Thereafter PP obtained EC for expansion from 8.16 MTPA to 11.42 MTPA without change of mining lease area vide letter EC dated 12.10.2018. EC was further amended vide EC dated 20.08.2020 for revision in calendar programme.

- The PP has now made an online application vide proposal no. IA/JH/CMIN/473199/2024 Dated 16/05/2024 for amendment of EC Generic condition no.- 4.1(a) (ii) of EC dated 20.08.2020. PP has submitted the following amendment along with justification:

Specific/ General Condition No	**Details of Conditions**	**Amendment Sought**	**Justification**

Generic Condition 4.1(a)(ii)	No changein mining method, calendar programme and scope of work without obtaining pr	The proposal is for prior approval as per generic EC condition to undertake High wall Min	For conservation of coal and to improve recovery of coal it is proposed to undertake High wall Mining. The proposal will enab

	ior approval of Ministry of Environment, Forest and Climate Change	ing in Rajapur-South Jharia OC without any change in EC Capacity and lease area. The	le Highwall Mining (Blast free and Drill Free) along with OC operation in Rajapur-South Jharia OC of Cluster VII without any

		eshall be no change in Mine limit and Mine Depth.	change in EC Capacity and lease area. • There shall be no change in Mine limit and Mine Depth. • Mining Plan and M

			in e Closure Plan of Raj a pur OC with High wall Mining Operation for peak EC capacity of 2.5 6 MTPA has been

			approved in the 404th Board meeting of Bharat Coking Coal Limited on 05.08.2023

3.1.3. Deliberations by the committee in previous meetings

N/A

3.1.4. Deliberations by the EAC in current meetings

PP along with NABET Accredited consultant made a detailed presentation on EC conditions that require amendments along with its justification. The Committee deliberated on various aspects of the proposal and the presentation made by PP. After detailed deliberation, the Committee observed the following:

1) Proposal is for amendment in the Generic Condition 4.1(a) (ii) of EC dated 20.08.2020 and accordingly PP applied under Form-4 on Parivesh Portal.

2) The Committee noted that there are some technical issues in the Parivesh Portal related to the amendment log and other information, for which PP has raised the ticket TIC-24010690 dated 14.06.2024 but at the same time provided the information in its reply dated 14.06.2024.

3) The Committee observed that PP has proposed changing the mining method from Opencast to UG through Highwall Mining. PP submitted that the mine has reached the final pit limit and the amendment sought is to extract the mineral blocked in the safety barrier between the two pits. The PP also clarified that this safety barrier is not around the pit limit of the cluster rather it is between the two pits of cluster mines. PP also showed the photographs and videos of the same. PP informed that a 300-meter drive will be made into the high wall and the length of the high wall will be 2.5 KM.

3.1.5. Recommendation of EAC

Recommended

3.1.6. Details of Environment Conditions

3.1.6.1. Specific

specific conditions	
1.	
2.	*The plantations done by the PP need to be adequately densified during the current monsoon season and audited by a third party preferably a forestry institution of MoEFCC (e.g. ICFRE) to assess their efficacy*
3.	*PP to ensure installation of Wind barrier wall / Vertical Greenery System at suitable locations*
4.	*Miyawaki plantation in an area of 25 Ha will be taken up during the current monsoon period*
5.	*The other terms and conditions of earlier granted ECs and EC amendments shall remain the same*
6.	*No Mining should be done in Safety zone*
7.	*PP is advised to implement the 'Ek Ped Maa Ke Naam' Campaign which was launched on 5th June 2024 on the occasion of the World Environment Day to increase the forest cover across the Country. This plantation drive is other than Green belt development. The action in this regard shall be submitted concerned RO in six monthly report*
8.	*PP shall also carry out a study of impact on health and environment in the local area due to continuous unabated fire*

3.2. Agenda Item No 2:

3.2.1. Details of the proposal

Integrated Lakhanpur Belpahar Lilari Project by **INTEGRATED LAKHANPUR-BELPAHAR-LILARI OCP** lo cated at **JHARSUGUDA,ODISHA**

Proposal For		Amendment in EC	
Proposal No	**File No**	**Submission Date**	**Activity (Schedule Item)**
IA/OR/CMIN/471280/2024	IA-J-11015/15/2019-IA-II(M)	14/06/2024	Mining of minerals (1(a))

3.2.2. Project Salient Features

13.2.1:. The Proposal is for amendment in Environment Clearance granted to MCL vide letter no. IA-J-11015/15/2019-IA. II (M) dated 15.01.2024 for expansion and amalgamation of three mines Lakhanpur, Belpahar and Lilari Open Cast mine with increase in production capacity from 32.5 MTPA to 40 MTPA within mine lease area of 4399.246 ha located in Lakhanpur Area, District Jharsuguda (Odisha).

13.2.2 The EAC during the deliberation observed the following:

- The Environment clearance for the project was granted under EIA Notification, 2006 vide Ministry's letter no. IA-J-11015/15/2019-IA. II (M) dated 15.01.2024 for expansion and amalgamation of three mines Lakhanpur, Belpahar and Lilari Open Cast mine with increase in production capacity from 32.5 MTPA to 40 MTPA within mine lease area of 4399.246 ha.

- The PP has now made an online application vide proposal no. IA/OR/CMIN/471280/2024 Dated 02.05.2024 for amendment of EC Specific Condition no.'s 1.3, 1.5, 1.9, Additional Condition Specific No. 1 and Corrigendum in EC as from "32.5 MTPA to 40.0 MTPA" to "32.3 MTPA to 40.0 MTPA" of EC dated 15.01.2024. PP has submitted the following amendment along with justification:

Specific/ General Condition No.	Details of Conditions	Amendment Sought	Justification
Specific co	In addition to the existi	In addition to the existi	As per the approved Mining Plan of Integrated Lakhanpur-Belpahar-Lilari OCP it was proposed to dispatch 30.0 Mty of coal through SILO and conveyor out of

ndition no. 1.3	ng facility for 10 MTPA mechanized transportation system, PP shall install dedicated in-pit belt conveyor for 15 MTPA with silo loading system till rail	ng facility for 10.0 MTPA mechanized transportation system, PP shall install dedicated in-pit belt conveyor for 20 MTPA with silo loading system till	which 10.0 Mty is already operational, 3.5 Mty through MGR and 6.5 Mty through Road sale. The same has also been mentioned in page 4 of EC letter under section ***"Coal transportation"*** **<u>Quote from EC letter dt. 14-01-2024</u>** *Coal Transportation: The coal will be dispatched through rail and road mode.* • *Out of the total 40.0 MTPA of coal, 10.0 MTPA of coal will be transported by pipe conveyors to the washery from receiving hoppers towards north. After washing, washed coal will be transported by conveyors to silo for final dispatch by rail.* • *For 20.0 Mty ROM coal, receiving hoppers are proposed near southern entry of Central Quarry, which are also near to South Quarry exit. Coal will be transported by conveyors through over-ground bunker to two silos (20 Mty) for rapid loading on rail.* • *And 3.5 Mty coal will be dispatched to OPGC by rail from sidings and balance 6.5 Mty will be dispatche*

	way siding for transportation of 100% of extracted coal through rail within six months of grant of EC. No road transportation shall be allowed by State Gover	railway siding for transportation of extracted coal through rail & till such time minimum coal shall be transported by road.	*d locally to nearby customers* **Unquote** Existing Coal Dispatch Arrangement: Sl. No. / Coal in Mty / Dispatch Medium 1 / 10.0 / Pipe conveyor, washery and rail Siding 6 & 7 2 / 20.0 / By rail Siding no. 3, 6 & 7 within Mine Lease 3 / 6.5 / Local sale by road 4 / 3.5 / To OPGC by Rail through Charla Siding within Mine Lease Total / 40.0 / Proposed Coal Dispatch Arrangement: Sl. / Co / Dispat / Stat

	nment. Accordingly, SPCB should grant the consent to operate.		No.	al in Mty	ch Medium	us/ Timeline
			1a	10.0	Pipe conveyor, washery	In operation
			1b		SILO Phase-I (Physical Progress-98.20%, Financial Progress-96.44%.	By 31.07.2024
			1c		Rail line connectivity for SILO is under construction and require	By 30.06.2024$

		s Stage-II forest clearance	
2	20.00	By conveyor and SILO Phase II	By 14.05.27$
3	4.0	Local sale by road through ATLS	By 30.06.25*
4	3.5	To OPGC by Rail through Charla Siding within Mine Lease	In operation
5	2.5	By rail Siding no. 6 & 7 withi	In operation*

			n Mine Lease $Silo and rail for 20.0 Mty can be constructed only after obtaining Stage-II Forest Clearance. * Further the 6.5 Mty coal dispatch through road shall be curtailed to 4.0 Mty which will be done through Automatic Truck Loading system and rest 2.5 Mty will be dispatched through railway siding 6&7. From above table it can be observed that in addition to the existing **10.0 Mty mechanized** evacuation system, the project is in the process of developing **20.0 Mty belt and SILO** loading system **by May' 27** and **4.0 Mty Automatic Truck Loading System (ATLS) by June'25**.
Specific condition no. 15	PP needs to avoid further external dumping over exi	PP needs to avoid further external dumping over exi	In the proposed project there is no additional external dumping, all the OB produced will be dumped internally. However, re-handling of existing Lakhanpur OB dump is required to extract lower seams namely Rampur and IB seam (approx. 450 Mt) coal. Earlier only top seam named Lajkura has been extracted in

	sting OB of Lakhanpur OCP and Belpahar OCP and their re-handling too shall be avoided. Mine shall be modified accordingly.	sting OB of Lakhanpur OCP and Belpahar OCP and only re-handling of Lakhanpur OB dump shall be allowed to extract lower seam.	Lakhanpur OCP. Thus, re-handling of the existing OB of Lakhanpur is absolutely essential for conservation of coal resources. After re-handling of OB and working of lower seams integration of mines is possible. Progressive backfilling will be done & the same will be technically & biologically reclaimed permanently, no further land degradation will be done.
Speci	PP shall start	PP shall start	In proposed mine the average stripping ratio during last 5 ye

fic condition no. 1.9	backfilling the existing pit in place of increasing the height of OB dump or creation of extra spaces for another dump area.	backfilling within mined out void and avoid creation of another dump area	ars was **1.76 cum/t** (OB/Coal). However, in proposed integration to extract the lower seam average stripping ratio will increase to **2.61 cum/t** in next 5 years. This increase in stripping ratio will cause much more OB removal in future years. To accommodate this huge OB and avoid any further external dumping existing mine void in Belpahar OC is not sufficient, it is essential to increase the height of internal dump (within excavation). To keep the entire OB internally, it is necessary to raise the dump top level to 90 m above surrounding ground level due to space constraints and to avoid additional forest areas for the same.
Additional EC c	Transportation of materials by	Transportation of materials by	This is in line with specific condition no. 1.3, from which it can be observed coal dispatch has been planned for 30.0 Mty through belt and SILO loading system, 4.0 Mty through ATLS for road sale, 3.5

on dition no. 1	rail/conveyor belt with silo loading facility shall be implemented for 40 MTPA.	rail/conveyor belt with silo loading facility shall be implemented for not less than 90% of the coal production.	to OPGC by Siding within Mine Lease and remaining 2.5 Mty from sidings within mining lease.
			Apart from this in the EC letter of Expansion and amalgamation of three mines Lakhanpur, Belpahar and Lilari Open Cast mine it is mentioned that increase in capacity would be from **32.5 Mty to 40.0 Mty** whereas it is **32.3 Mty to 40.0 Mt**

			y (22.5 Mty of Lakhanpur OCP, 9.0 Mty of Belpahar OCP and 0.8 Mty of Lilari OCP). So, accordingly a corrigendum in EC may be issued.

3.2.3. Deliberations by the committee in previous meetings

N/A

3.2.4. Deliberations by the EAC in current meetings

PP along with NABET Accredited consultant made a detailed presentation on EC conditions that require amendments along with its justification. The Committee deliberated on various aspects of the proposal submitted and the presentation made by PP. After detailed deliberation, the Committee observed the following:

Specific/ General Condition No.	**Details of Conditions**	**Amendment Sought**	**Recommendation of EAC**
Specific co	In addition to the existi	In addition to the existi	**Agreed** for one year the

ndition no. 1.3	ng facility for 10 MTPA mechanized transportation system, PP shall install dedicated in-pit belt conveyor for 15 MTPA with silo loading system till rail	ng facility for 10.0 MTPA mechanized transportation system, PP shall install dedicated in-pit belt conveyor for 20 MTPA with silo loading system till	conditions shall be read as: *"In addition to the existing facility for 10.0 MTPA mechanized transportation system, PP shall install dedicated in-pit belt conveyor*

	way siding for transportation of 100% of extracted coal through rail within six months of grant of EC. No road transportation shall be allowed by State Gover	railway siding for transportation of extracted coal through rail & till such time mini mum coal shall be transported by road.	*for 20 MTPA with silo loading system till railway siding for transportation of extracted coal through rail & till such time mini mum coal shall be transported by roa*

	nment. Accordingly, SPCB should grant the consent to operate.		*d till 31/07/2025.”*
Specific condition no. 1.5	PP needs to avoid further external dumping over existing OB of Lakhanpur OCP an	PP needs to avoid further external dumping over existing OB of Lakhanpur OCP an	**Agreed**.

	d Belpahar OCP and their re-handling tooshall be avoided. Mineshall be modifiedaccordingly.	d Belpahar OCP and only re-handling of Lakhanpur OB dumpshall be allowed to extract lower seam.	
Specific condition no. 1.	PP shall start backfilling the existing pit in place	PP shall start backfilling within mined out void a	**Agreed**. The condition shall be read as: *“PP shal*

9	of increasing the height of OB dump or creation of extra spaces for another dump area.	nd avoid creation of another dump area.	*l st art ba ckf illi ng wit hin the mi ne d o ut voi d a nd sha ll n ot cre ate an oth er du mp are a. PP sha ll s ub mit a s tud y r eg ard ing the sta bili ty of t he du mp an d it s b iol ogi cal*

			rec la ma tio n t o R O, Mo E F& CC wit hin on e y ear an d i mp le me nt i ts r eco m me nd ati on s, t ill t he n t he hei ght of t he du mp sha ll n ot be mo re t ha n 6 0 m ab ove the

			ground level.”
Additional EC condition no. 1	Transportation of materials by rail/conveyor belt with silo loading facility shall be implemented for 40 MTPA.	Transportation of materials by rail/conveyor belt with silo loading facility shall be implemented for not less than 90% of the coal produ	**Agreed.** The condition shall be read as: *“Transportation of materials by rail/conveyor belt with silo loading facility shall be implemented for*

		cti on.	*40 MT PA wit hin on e y ear an d t he co al sho uld not be tra nsp ort ed thr ou gh roa d a fter 31/ 7/2 02 5."*
Correction in product ion capacity inadvert ently mentioned as 3 2.5 MTPA in place of 32.3 MTPA in EC da ted 15.01.2024. The c orrection in Subject, Para no. 2 and Para n o. 4 of the said EC is **agreed** for the factual corrections and the pr oduction figure shall be read as 32.3 MTP A.			

Based on the discussion held and documents submitted the Committee ***recommended*** *the above amendment and correction in EC dated 15.01.2024 granted for INTEGRATED LAKHANPURBELPAHAR-LILARI OCP (IB Valley Coalfield) with rated capacity 40.0 MTPA within mine lease area of 4399.246 ha by located in Lakhanpur Area, District Jharsuguda (Odisha) by MCL. Subject to the compliance of the following terms & conditions / specific conditions: -*

3.2.5. Recommendation of EAC

Recommended

3.2.6. Details of Environment Conditions

3.2.6.1. Specific

specific conditions	
1.	*PP shall comply with the earlier EC conditions and get the inspection done from RO and submit an ATR within 6 months*
2.	*PP shall install sufficient numbers of CAQMS and meteorological stations to monitor the core and buffer zone. PP shall explore the possibility of installation of mobile CAQMS to capture the air quality within the core working zone*
3.	*Dump stabilisation should start from 7th year onwards*
4.	*The other terms and conditions of earlier granted ECs and EC amendments shall remain the same*
5.	*PP is advised to implement the 'Ek Ped Maa Ke Naam' Campaign which was launched on 5th June 2024 on the occasion of the World Environment Day to increase the forest cover across the Country. This plantation drive is other than Green belt development. The action in this regard shall be submitted concerned RO in six monthly report*

3.3. Agenda Item No 3:

3.3.1. Details of the proposal

Gondbahera Ujheni Underground Coal mine by **MP NATURAL RESOURCES PRIVATE LIMITED** located at **S INGRAULI,MADHYA PRADESH**			
Proposal For		Fresh ToR	
Proposal No	**File No**	**Submission Date**	**Activity (Schedule Item)**
IA/MP/CMIN/475187/2024	J-11015/41/2024-IA.II(M)	14/06/2024	Mining of minerals (1(a))

3.3.2. Project Salient Features

13.3.1: The present proposal is for grant or Terms of Reference (ToR) for Gondbahera Underground Coal Mine having mine lease area 1926.246 Ha with production capacity of 4.12 MTPA, located at village – Talwa, Devra, Tingudi, Ujheni and Majhauli, Tehsil – Deosar, District – Singrauli, State – Madhya Pradesh. MP Natural Resources Pvt. Ltd has made an online application vide proposal no. IA/MP/CMIN/475187/2024 on 24.05.2024 along with the application in the prescribed format (Form – I), copy of pre-feasibility report and proposed ToRs for undertaking detailed EIA study as per EIA Notification, 2006 for the project mentioned above.
13.3.2: Details of the proposal as ascertained from the proposal documents and as revealed from the discussion held during the meeting, are given as under:
13.3.2.1: Location:

i) The project area is covered under Survey of India Topo sheet No 63 L/8 and is bounded by the geographical coordinates ranging from 24°08′57"N to 24°11′27"N, and Longitudes 82°19′53"E to 82°23′38"E. The DGPS coordinates of the ML area are given in Table 2 of Pre-feasibility report.

ii) Project does not fall in the Critically Polluted Area (CPA), where the MoEF&CC's vide its OM dated 13th January, 2010 has imposed moratorium on grant of Environment Clearance.

13.3.2.2: Forest Area: PP submitted that the project involves total 461.777 Ha of forestland for which application to obtain approval has already been filed vide proposal no. FP/MP/MIN/QRY/473885/2024. The PP submitted that there is no broken forestland as this is an underground mine and there is no violation of FC Act.

13.3.2.3: Protected Area: The PP reported that the project is not located within 10 KM of any ESZ/ ESA/ National Park/ Wildlife Sanctuary/ Biosphere reserve/ Tiger reserve/ Elephant reserve/ Tiger corridor/ Elephant corridor etc. PP further reported the there is no violation of WLP Act. PP also submitted that wildlife study will be done to assess the wildlife issues involved and accordingly will prepare the Wildlife Management Plan.

13.3.2.4: Mining Lease: PP submitted that the mine lease was allotted via allocation order letter no. NA-104/15/2023-NA, dated 08.06.2023 for the area of 2040 Ha, out of which project area is 1926.246 Ha. Expiry date of the allocation order is 31.03.2055.

13.3.2.5: Mining Plan: The PP submitted that the mining plan & mine closure plan for the project has been approved for 4.12 MTPA (normative), over an area of 1926.246 Ha vide application no. Gondbahera Ujheni Coal Mine - MPMP051/APP00290/2023 dated 03.06.2024.

13.3.2.6: Method of Mining: The PP submitted the following:

i) Method of mining to be adopted shall be Underground. The Capacity of the mine applied for Normative capacity is 4.12 MTPA and peak capacity 6.18 MTPA as per approved mining plan.

ii) Excavation of Coal will be done by underground mining with board and pillar method deploying continuous miner technology. Being an underground mine, the waste/OB will only be generated during drivage's of incline, & shafts sinking and also from drivage's of cross-cuts in hard rock is estimated to be about 0.438 million Cum.

iii) Total geological reserve reported in the mine lease area is 722.977 MT with 286.8290 MT is mineable reserve. Out of total mineable reserves of 286.829 MT, 158.544 MT is available for extraction. The percentage of extraction is 23.562 %.

iv) There are 7 workable seams by UG method in the block. Seam-VIII, Seam-VII (Top, Bot and comb), Seam-VI and Seam-V are at depth with thickness ranging from 0.35 to 16.60 m. Seams R-3, R-1 and RL-5 are near the surface with thickness ranging from 0.15 to 6.80 m. The grade of coal is avg. G10, and gradient is 50.

v) Life of mine is 51 years.

vi) The seams are proposed to be mined by underground mining with board and pillar method deploying continuous miner technology, therefore, OB shall not be generated during mining. The waste/OB will only be generated during drivage's of incline, & shafts sinking and also from drivage's of cross-cuts in hard rock is estimated to be about 0.438 million cum which will be used in embankment for preparation bank head and filling of low-lying areas.

vii) Out of the entire 1926.246 ha land area, 38.449 ha will be used for road and infrastructure development, 1.41 ha will be under UG entry, 0.468 ha will be used for road diversion and the rest 1885.919 ha will be undisturbed area having mining right for underground area. At the end of the conceptual period, a total 37.127 Ha will be afforested.

viii)**Details of Land usage**

a. Pre-mining

S. No.	Land Use	Within ML Area (ha)	Outside ML Area (ha)	Total
1.	Agricultural Land	1018.102	-	1018.102
2.	Forest land	461.777	-	461.777
3.	Waste land	-	-	-
4.	Grazing land	-	-	-
5.	Surface Water Bodies	-	-	-
6.	Settlements	-	-	-
7.	Others (Specify)	446.367 (govt. land)	-	446.367
Total		1926.246	-	1926.246

b. During mining

S. No.	Land Use during Mining	Land Use (Ha)					
		Plantation	Infra	Water Body	Public Use	Undisturbed	Total
1.	External OB Dump	-	-	-	-	-	-
2.	Top soil Dump	-	-	-	-	-	-
3.	Excavation	-	-	-	-	-	-
4.	Roads & Built up areas	-	25.859	-	0.468	-	26.327
5.	Green belt	14	-	-	-	-	14
6.	Safety Zone	-	-	-	-	-	-
7.	Undisturbed Area	-	-	-	-	1885.919	1885.919

S. No.	Type	Total Area	Reclaimed Area	Un- reclaimed area
1.	Excavation/Quarry Area:	-	-	-
	(a) Backfilled areas	-	-	-
	(b) Excavated Void	-	-	-

2.	External Dump	-	-	-
3.	Safety Zone	-	-	-
4.	Road and infrastructure	-	37.127	2.732
5.	Garland Drains	-	-	-
6.	Embankment	-	-	-
7.	Others (road diversion)	-	-	0.468

ix) **Details of transportation of Coal:** The material is proposed to be transported by Track Haulage system by series of conveyors

(i) In pit: Conveyor

(ii) Surface to siding: Conveyor.

(iii) Siding to loading: Silo to Railway.

(iv) Quantity being transported by Road/Rail/conveyor/ropeway: 4.12 MTPA

x) Detailed Status of Progressive Mining Closure Plan is not applicable as it is a Greenfield project.

xi) **Details of villages/habitation in mine lease area**: There are five no. of villages within the mining lease area. Being an underground mining project there will be no shifting of villages.

xii) **Acquisition:** Lease is yet to be granted for this auction block.

xiii)**Reclamation:** The reclamation plan includes

i) Afforestation shall be done covering an area of 37.127 ha. This will include the infrastructure area.

ii) Green Belt (in ha)- 14 ha

iii) Density of tree plantation (in no of plants)- 2500 per ha

13.3.2.7: Legal issues/ Violation: PP reported that there is no legal issue/ violation w.r.t Environment (Protection) Act, ii) Air(P&CP) Act, Water (P&CP), Act, Forest Conservation Act, Wildlife Protection Act, CRZ Notification, MMDR Act, Factories Act. Further, there is no court case on the project.

13.3.2.8: Baseline Studies: PP submitted that baseline monitoring has already been done during post monsoon period Oct 2023-Dec 2023. PP reported that the Laboratory involved in analysis of water, air, noise & soil quality data, etc. has been accredited by the NABL/ MoEF&CC bearing the Certificate of Accreditation No TC-6993 and valid from 04/04/2023 till 03/04/2025.

13.3.2.9: Water requirement: The PP reported that there is groundwater intersection involved, for which NoC from CGWA will be obtained later. PP reported that sources of water will be groundwater, seepage water and bore well. Further, the water requirement reported by the PP during construction period is 160 KLD (for domestic and construction activity) and during operation phase 1753 KLD (for mining activity, sprinkling, and domestic purpose). PP also, reported that there is no River/ Nallah diversion proposed.

13.3.2.10: Solid and Hazardous Waste: PP submitted the following details of solid and hazardous waste generation along with its mode of treatment/ disposal:

SI No	Type of Waste	Source	Quantity (	Mode of T	Disposal	Remarks

			TPA)	**reatment**	
1.	Biodegradable	Domestic	23.33	Composted and will be us ed for plantation	
2.	Non Biodegrad able	Domestic	34.98	The generated waste will be handed over to authoriz ed recyclers	
3.	Solid waste	Generated d uring incline drivages and Shaft sinkin g for mine e ntries	4,38,000 C um (One ti me)	Total 4,38,000 Cum muck will be generated one time and will be utilized in infr astructure within mine lea se	
4.	Plastic waste	Domestic wa ste from Site office	2.5	Sold to authorized vendor	
5.	Hazardous was te	From HEM M and other mining equi pment's	5	Authorized CPCB recycle rs	
6.	E waste	Computers, s witches, cabl e etc	0.1	Authorized vendors as per E waste management 202 2	
7.	Battery waste	vehicles	0.5	As per battery waste mana gement rules 2022, waste will be sold to Authorized vendors for recycling	
8.	Biomedical wa ste	Dispensary	0.05	Incineration by nearby ho spitals or authorized vend ors.	

13.3.2.11: R&R Plan: The PP submitted that, since it is an underground mine, the land requirement will be limited and wherever the land will be required, it will be acquired on a one-to-one basis. Hence, no R&R is required.

3.3.3. Deliberations by the committee in previous meetings

N/A

3.3.4. Deliberations by the EAC in current meetings

PP and the NABET Accredited Consultant made a detailed presentation and the Committee deliberated

on the various aspects of the project including the method of mining, dumping, transportation, forest area etc. The observations made by the EAC are as follows:

1) The proposal of MP Natural Resources Pvt Ltd. is for grant of Terms of Reference (ToR) for the production of 4.12 MTPA from Gondbahera Ujheni Underground Coal Mine in ML Area 1926.246 Ha, located at Village- Talwa, Devra, Tingudi, Ujheni & Majhauli, Tehsil- Deosar, District- Singrauli, State- Madhya Pradesh.

2) The Ministry of Coal vide Order No. NA-104/15/2023-NA, dated 08.06.2023 issued an order regarding the allocation of the mine lease. The Committee deliberated on the mine lease area of this particular block and asked the PP to submit lease boundary certificate demarked by the CMPDI. The PP in this regard submitted the certified plan by CMPDI (letter dated 22.12.2023) for the block boundary of Gondbahera Ujheni Coal Block vide letter dated 02.07.2024. Further, the Mine plan and the mine closure plan for production of 4.12 MTPA (the rated capacity) from the lease area of 1926.246 Ha, were approved by the Ministry of Coal vide application no. Gondbahera Ujheni Coal Mine - MPMP051/APP00290/2023 dated 03.06.2024.

3) PP reported that the project involves total 461.777 Ha of forestland for which application to obtain approval, has already been filed vide proposal no. FP/MP/MIN/QRY/473885/2024. The PP submitted that there is no broken forestland as this is an underground mine and there is no violation of FC Act. The Committee observed that surface activities is proposed on 40.33 Ha on the non-forest land.

4) The Committee asked the PP to submit the screenshot of the forest application status made to DFO. The PP vide letter dated 02.07.2024, submitted that the forest diversion proposal was accepted at PSC1 dated 11.06.2024 and at present is pending at DFO/ CF/ Nodal Officer for site inspection. PP has also submitted the screenshot of the same. The Committee also deliberated on the type of forest involved in the lease area, for which the PP submitted that the entire forest area involved in the lease area is reserve forest. The Committee also asked the PP for concurrent plantation plan including plan for densification of existing forest.

5) PP reported that the project is not located within 10 KM of any ESZ/ ESA/ National Park/ Wildlife Sanctuary/ Biosphere reserve/ Tiger reserve/ Elephant reserve/ Tiger corridor/ Elephant corridor etc. PP further reported the there is no violation of WLP Act. PP also submitted that wildlife study will be done to assess the wildlife issues involved and accordingly will prepare the Wildlife Management Plan. The Committee asked the PP to submit the primary data of bio-diversity of the respective area (including list of Schedule – I species). The PP vide letter dated 02.07.2024 submitted the draft bio-diversity report including the list of flora and fauna and Schedule–I Species. The Committee observed that the Schedule-1 species is as per WLP, 1972 as PP shall refer WLP, 2022 also for the same. Additionally, PP shall obtain the authenticated list of schedule-1 species from the concerned department.

6) The Committee observed that location of mine is in District- Singrauli, of Madhya Pradesh and as per CEPI 2018 assessment the score was 62.59 combined for Singrauli -Sonbhdra Industrial Area. The MoEF&CC vide OM dated 20.07.2022 as per which CEPI score of Singrauli is 61.38 and it comes under SPA. PP submitted letter dated 24.06.2024 issued by Member Secretary, SPCB Bhopal wherein it has mentioned that Gondbahera Ujheni Underground Coal Mine is not coming under SPA, Singrauli and the mine is located at a distance of 18.84 KM from the same.

7) PP submitted that there is no court case on the project.

8) The Committee observed that baseline monitoring has already been done during post monsoon period Oct 2023-Dec 2023 as per MoEF&CC OM dated 8.06.2022.

9) The Committee deliberated on the plantation activities by the PP. The PP submitted that greenbelt will be developed in the area of 14 Ha in the first five years and the density of the plantation will be 2500 number of plants per Ha. The PP also submitted that afforestation shall be done at the end of conceptual stage covering an area of 37.127 ha. This will include the infrastructure area and dense plantation will be done along the approach road. The Committee asked the PP to do intensive plantation around the conveyor belt and incline, in order to mitigate the noise pollution and air pollution. The Committee also asked the PP to submit the plantation plan for forest land and government land and asked the PP to start plantation activities concurrently from the 1st year onwards.

10) The Committee deliberated on the habitation and the sensitive man-made land uses in the lease area. The PP submitted that since this is an underground mine, there will be no displacement of habitation within the lease area. The committee observed that there are 3 schools, temples and a government hospital in the lease area.

The Committee deliberated on the social environment measures that the PP is going to undertake. PP submitted that periodic health check-up of local villagers will be conducted. PP also submitted that about 540 people during construction phase and 1178 people during operation phase will be given employment in the project and besides this, indirect employment will also be generated due to ancillary activities. The Committee asked the PP to explore possibility of relocation of nearby schools and also take mitigative measures around the schools within the lease area in order to safeguard the interest and health of students. Apart from this, Committee also asked PP to establish a new school and provide free of cost education. The PP agreed for the same.

11) The Committee observed that there is some habitation near to incline location and what about the right of way for the persons who might have their houses away from the incline but have their agricultural field near to the same or near to conveyor belt. PP submitted that they will ensure that local people will not face any problem. The Committee is of the view that PP shall ensure the safety of the general public and their Cattel's as the belt conveyor is passing through the agricultural fields. The Committee also suggested that proper fencing should be provided and natural wind barrier shall also be created between the mine infrastructure and settlements.

12) PP submitted that total electricity requirement is 16 MW, for which the main source will be MPMKVVCL. The PP also submitted that the proposed renewable energy source will be for 16 MW which will contribute about 0.1% of the total energy requirement and the energy conservation measure proposed is use of solar lighting. The Committee is of the view that PP shall align the project towards achieving SDGs.

13) The PP submitted that the total manpower requirement for the said project will be about 540 (30 permanent + 510 contractual) people during construction phase and 1178 (130 permanent + 1048 contractual) people during operation phase and each will be given employment according to their qualification and capabilities in the project and besides this, indirect employment will also be generated due to ancillary activities. The Committee is of the view that PP shall submit a plan for skill development of the PAF and nearby community so that they are capable enough to get employment/self-employed.

14) The expected project cost submitted by the PP is Rs. 2464 Crore.

15) PP submitted that the method of mining to be adopted shall be Underground and excavation of coal will be done by underground mining with board and pillar method deploying continuous miner technology. PP submitted that being an underground mine, the waste/ OB will be generated during drivage's of incline, & shafts sinking and also from drivage's of cross-cuts in hard rock. The Committee is of the view that PP shall explore the possibility of using electric/e-vehicles/cleaner fuel (LNG/CNG) based mining machinery and trucks for mining operations and transportation of coal.

16) Details of reserves and resources submitted by the PP are as follows:
- Net Geological reserves – 722.977 MT
- Mineable reserves – 286.8290 MT
- Extractable reserves – 158.544 MT
- Life of Mine – 51 Years

17) The Committee observed that as per DSS analysis on Topo Sheet map, Bandhay Nadi is passing through the southern part of the lease and also there are some water bodies inside the lease area. PP submitted that as it is an underground mine, there is no diversion proposed of the Bandhey River. The Committee asked the PP to submit the details of the existing water bodies within the lease area. The PP submitted the same vide letter dated 02.07.2024, and reported that there are total 7 no.s of ponds present in the core zone and total 12 no.s of water bodies present in the buffer zone. The details of the same are as follows:

Water bodies within 10 KM radius

S. No.	Water	Dist	Direc

	Bodies	**ance**	**tion**
1.	BandhaN	Itformsthesouthernboundary	S
2.	MahanN	1.46Km	WNW
3.	PiparhawaN	2.83Km	NE
4.	Kanchan	4.25K	ESE

	Dam	m	
5.	DhamarN	4.48Km	WNW
6.	SaravnN	4.86Km	SSE
7.	JurniNala	5.49Km	NE
8.	KanchanmudaN	5.87Km	SW
9.	KanchanN	7.01km	SE
10.	SukharN	7.54Km	WSW

11.	Khakhan Nala	8.30 Km	NNE
12.	Patil	8.79 km	WSW

The Committee asked the PP to submit a plan for water recharge and water conservation of the same. The Committee also asked the PP to take measures for storage of treated water and maintain the ponds in such a manner that the same can be used for agricultural purpose and cattles and asked the PP to submit the rejuvenation plan for the ponds within the lease area and adjoining the ML area.

12. The Committee deliberated on the transportation of coal. The PP submitted that the transportation of coal will take place through track haulage system and conveyor to railway siding and no road transportation is involved.

13. The Committee deliberated on the subsidence level of the said mines and asked the PP to submit the subsidence study report. The PP submitted the same via letter dated 02.07.2024.

14. The Committee is of the view that provision for washrooms in the underground mines for workers to be planned and details to be provided in EIA Report. The EIA report should also include details of STP and ETP to be provided.

15. The Committee deliberated of the disaster management measure proposed and asked the PP to prepare and submit the disaster management plan. The Committee suggested PP to align its operations with SDG's 2030 and focus on zero carbon emission.
Based on the discussion held and the documents submitted, the EAC ***recommended*** *the proposal for the grant of Terms of Reference (TOR) to Gondbahera Ujheni Underground Coal Mine (ML Area 1926.246 Ha, rated capacity of 4.12 MTPA) of MP Natural Resources Pvt Ltd., located at Village- Talwa, Devra, Tingudi, Ujheni & Majhauli, Tehsil- Deosar, District- Singrauli, State- Madhya Pradesh, under EIA Notification, 2006 (as amended) with the following specific TOR conditions in addition to generic TOR (system generated).*

3.3.5. Recommendation of EAC

Recommended

3.3.6. Details of Terms of Reference

3.3.6.1. Specific

Specific ToR	
1.	PP has to prepare the EIA-EMP report based on the valid baseline data and thereafter conduct the Public Consultation (including public hearing), through concerned SPCB in the concerned districts as per the provisions/procedure contained in the EIA Notification, 2006 (as amended) and OM issued by MoEF&CC in this regard.
2.	PP shall submit the EIA/EMP report after the plagiarism check using authenticated plagiarism software.
3.	Plot the wind rose diagram using the typical meteorological year (TMY) data for the period considered for the study. The monitoring units shall be deployed in the field based on the coverage area ratio and direction of the wind. A mathematical model shall be developed for the local site rather than using the standard model available in software for both air & water quality modelling.
4.	Impact of underground mining on the environment including underground mine air quality needs to be done by a reputed Government institute. The action plan on recommendation of study with budgetary provision needs to be submitted.
5.	As the project involves groundwater intersection a Hydrological study shall be carried out by reputed Government Institute. Further, PP shall comply with the Ministry's OM dated 23.05.2019 and provide necessary details/studies in the EIA/EMP Report.
6.	PP shall submit the drone video & photographs of mined area, fresh lease area to be mined and existing and proposed transportation route. The height and speed of the drone shall be so maintained to give legible images/videos. Necessary titles should be included for better understanding.
7.	PP should submit the detailed plan in tabular format (year-wise for life of mine) for concurrent afforestation and green belt development in and around the mining lease. The PP should submit the number of saplings to be planted, area to be covered under afforestation & green belt, location of plantation, target for survival rate and budget earmarked for the afforestation & green belt development. In addition to this PP should show on a surface plan (5-year interval for life of mine) of suitable scale the area to be covered under afforestation & green belt clearly mentioning the latitude and longitude of the area to be covered during each 5 years. The capital and recurring expenditure to be incurred needs to be submitted. Plantation plan should be prepared in such a way that 80% of the plantation to be carried out in first 5 years and for the remaining years the proposal for gap filling. The seedling of height not less than 2 meters to be selected and accordingly cost of plantation needs to be decided. In addition to this, plantation in the safety zone at lease boundary the plantation should be planned in such a way that it should be completed within 2 years only.
8.	PP shall also provide the plan for densification of the forest land. Plantation around the conveyor belt and incline, in order to mitigate the noise pollution and air pollution needs to be planned. PP to submit the plantation plan for forest land and government land and asked the PP to start plantation activities concurrently from the 1st year onwards. In addition to this plan for creation of natural wind barrier between the mine activities/infrastructure and habitation/village needs to be planned. The budget and timeline for the same needs to be submitted.
9.	PP should submit the quantity of surface or ground water to be used for this project. The complete water balance cycle need to be submitted. In addition to this PP should submit a detailed plan for rain water harvesting measures to be taken. The PP should submit the year wise target for reduction in consumption of the ground/surface water by developing alternative source of water through rain water harvesting measures. The capital and recurring expenditure to be incurred needs to be submitted.
10.	Pond rejuvenation plan and plan for water recharge in the surrounding areas needs to be prepared. The capital and recurring expenditure to be incurred needs to be submitted.
11.	PP should clearly bring out the details of the manpower to be engaged for this project with their roles /responsibilities/designations. In addition to this PP should mention the number and designation of person to be engaged under Environment Management Cell for implementation of environmental management plan (EMP). The capital and recurring expenditure to be incurred needs to be submitted.

12.	PP should submit the year-wise, activity wise and time bound budget earmarked for EMP, occupational health surveillance, and activities proposed to address the issues raised during Public Hearing. The capital and recurring expenditure to be incurred needs to be submitted.
13.	PP should clearly bring out that what is the specific diesel consumption ~ (Liters/Tonne of total excavation & mineral) and steps to be taken for reduction of the same. The year-wise target for reduction in the specific diesel consumption needs to be submitted. PP shall also explore the possibility of using electric/e-vehicles/cleaner fuel (LNG/CNG) based mining machinery and trucks for mining operations and transportation of men and material and submit a time bound action plan.
14.	PP should clearly show the transport route of the mineral and protection and mitigative measures to be adopted while transporting of the mineral. The impact from the centre line of the road/conveyor on either side should be brought out clearly. Based on the above study the compensation to be paid in the event of damage to the crop and land on either side of the road/conveyor needs to be mentioned.
15.	All the certificates viz. Involvement of Forest land, distance from the protected area, and list of flora & fauna should be duly authenticated by the Forest Department. The Certificate should bear the name, designation, official seal of the person signing the certificate and dispatch number.
16.	Analyse biodiversity of the surrounding area and prepare wildlife management plan for the surrounding area.
17.	PP shall submit the action plan to adhere to the Plastic Waste Management Rules 2016 and to adhere Ministry's OM dated 18/07/2022.
18.	PP shall submit design details of all Air Pollution control equipment (APCEs) to be implemented as part of the Environment Management Plan vis-à-vis reduction in concentration of emission for each APCEs.
19.	The PP should ensure that only NABET-accredited consultants shall be engaged for the preparation of EIA/EMP Reports. PP shall ensure that the accreditation of the consultant is valid during the collection of baseline data, preparation of EIA/EMP report and the appraisal process. The PP and consultant should submit an undertaking the information and data provided in the EIA Report and submitted to the Ministry are factually correct and the PP and consultant are fully accountable for the same.
20.	The PP should submit the photographs of monitoring stations & sampling locations. The photograph should bear the date, time, latitude & longitude of the monitoring station/sampling location. In addition to this PP should submit the original test reports and certificates of the labs which will analyze the samples.
21.	As the production level is above 2 MTPA, PP shall submit a plan for the installation of Silo Loading System (SLS), the transportation of coal through the belt conveyor from pit to SLS and from SLS through rail. A feasibility study needs to be conducted and the study should also clearly bring out the timeline for the installation of this setup and tentative budget.
22.	As per the Ministry's OM dated 30.09.2020, to address the concerns raised during the Public consultation including the public hearing, the Project Proponent is required to submit the detailed activities proposed with year-wise budgetary provisions (Capital and recurring). Activities proposed shall be part of EMP.
23.	A Social Impact Assessment Study shall also be carried out and an action plan on its recommendations may also be submitted with budgetary provisions.
24.	Details on renewable energy (solar plant) proposed to be installed as energy conservation measures shall be submitted.
25.	PP shall align its activities to one/few of the Sustainable Development Goals (SDG) and start working on the mission of net zero by 2050. PPs shall update the same to the EAC.
26.	PP should provide in the EIA Report details of the statutory clearances, permissions, no objection certificates, consents etc. required for this project under various Acts, Rules and regulations and their status or estimated

	timeline after the grant of EC.
27.	The budget to be earmarked for the various activities shall be decided after perusal of the Standard EC Conditions published by the Ministry.
28.	A detailed Wild Life Conservation plan for Schedule 1 species shall be prepared for the conservation of the species. PP shall ensure that a conservation plan shall be prepared and approved by the CWLW. PP shall obtain the authenticated list of schedule-1 species from the concerned department.
29.	PP shall submit the applications for obtaining NOC for the diversion of road/nallha/electric lines passing through the block area to the concerned authority and details shall be provided in EIA Report.
30.	PP shall also submit an action plan pursuant to MoEFCC OM dated 29.10.2014.
31.	PP shall provide the details of wastewater treatment facilities to be installed within its capacity, timeline and budget.
32.	Heavy metals including other parameters in surface water quality shall be analyzed and provided in EIA Report.
33.	PP to take mitigative measures around the schools within the lease area in order to safeguard the interest and health of students. A plan in this regard needs to be submitted. Further, as committed during the meeting to establish a new school and provide free of cost education. PP shall provide a time bound action plan for the same with budgetary provision.
34.	PP shall provide the action plan for the safety of the local people and their cattle from the mining activities by providing fencing and natural wind barrier between the mine infrastructure and settlements etc. shall be a part of such action plan. PP shall ensure to provide right of way to local people and EMP should have provision for the same.
35.	PP to submit the rejuvenation plan for the ponds within the lease area so that it can be used by local people.
36.	PP shall provide the details of the bore wells in the mine lease area and compensation to be paid in case bore wells fails in future due to mining activities.
37.	PP to submit the subsidence study report and action plan for compliance of the recommendations.
38.	PP shall provide the details of the facilities to be provided to mine workers underground. The EIA report should also include details of STP and ETP to be provided for treatment of domestic and industrial waste water.
39.	PP shall submit a plan for skill development of the PAF and nearby community so that they are capable enough to get employment/self-employed.
40.	EMP should include plan for water pollution control in underground facilities also.
41.	PP shall explore use of porta- magazine for explosives.
42.	PP shall prepare disaster management plan considering the risk involved in underground mines.

43.	PP shall assess the impact on the nearby by schools and explore possibility of relocation of the same.
44.	PP is advised to implement the 'Ek Ped Maa Ke Naam' Campaign which was launched on 5th June 2024 on the occasion of the World Environment Day to increase the forest cover across the Country. This plantation drive is other than Green belt development. An action plan in this regard shall be submitted with budget provisions.

3.3.6.2. Standard

1(a)	**Mining of minerals**
null	
1.	An EIA-EMP Report shall be prepared for peak capacity (…..MTPA)operation in an ML/project area of.....ha based on the generic structure specified in Appendix III of the EIA Notification, 2006.
2.	An EIA-EMP Report would be prepared for peak capacity operation to cover the impacts and environment management plan for the project specific activities on the environment of the region, and the environmental quality encompassing air, water, land, biotic community, etc. through collection of data and information, generation of data on impacts including prediction modeling for..... MTPA of coal production based on approved project/Mining Plan for.....MTPA. Baseline data collection can be for any season (three months) except monsoon.
3.	If the washery is located within the mine lease or near to the mine lease its location should be cited seperately also, providing pillar cordinates and site layout plan. Insuch cases cumulative impact of mine operation with washery to be assessd and EMP measure to be drawn to the worst scenario
4.	Plan of mechanized transportation of coal to coal washery also for rejects and washed coal to be drawn
5.	Propoer KML file with pin drop and coordinate of mine at 500-1000 m interval be provided
6.	A Study area map of the core zone (project area) and 10 km area of the buffer zone (1: 50,000 scale) clearly delineating the major topographical features such as the land use, surface drainage pattern including rivers/streams/nullahs/canals, locations of human habitations, major constructions including railways, roads, pipelines, major industries, mines, coal washery and other polluting sources. In case of ecologically sensitive areas such as Biosphere Reserves/National Parks/WL Sanctuaries/ Elephant Reserves, forests (Reserved/Protected), migratory corridors of fauna, and areas where endangered fauna and plants of medicinal and economic importance found in the 15 km study area should be given. The above details to be furnished in tabular form also
7.	Map showing the core zone delineating the agricultural land (irrigated and un-irrigated, uncultivable land as defined in the revenue records, forest areas (as per records), along with other physical features such as water bodies, etc should be furnished.
8.	A contour map showing the area drainage of the core zone and 25 km of the study area (where the water courses of the core zone ultimately join the major rivers/streams outside the lease/project area) should also be clearly indicated in the separate map.
9.	Catchment area with its drainage map of 25 km area within and outside the mine shall be provided with names, details of rivers/ riverlet system and its respective order. The map should clearly indicate drainage pattern of the catchment area with basin of major rivers. Diversion of drains/ river need eloboration in form of lengthe, quantity and quality of water to be diverted
10.	(Details of mineral reserves, geological status of the study area and the seams to be worked, ultimate working depth and progressive stage-wise working scheme until the end of mine life should be provided on the basis of the approved rated capacity and calendar plans of production from the approved Mining Plan. Geological maps and sections should be included. The Progressive mine development and Conceptual Final Mine Closure Plan should

<table>
<tr><td></td><td>also be shown in figures. Details of mine plan and mine closure plan approval of Competent Authority should be furnished for green field and expansion projects.</td></tr>
<tr><td>11.</td><td>Details of mining methods, technology, equipment to be used, etc., rationale for selection of specified technology and equipment proposed to be used vis-à-vis the potential impacts should be provided.</td></tr>
<tr><td>12.</td><td>Impact of mining on hydrology, modification of natural drainage, diversion and channeling 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.</td></tr>
<tr><td>13.</td><td>A detailed Site plan of the mine showing the proposed break-up of the land for mining operations such as the quarry area, OB dumps, green belt, safety zone, buildings, infrastructure, CHP, ETP, Stockyard, township/colony (within and adjacent to the ML), undisturbed area -if any, and landscape features such as existing roads, drains/natural water bodies to be left undisturbed along with any natural drainage adjoining the lease /project areas, and modification of thereof in terms of construction of embankments/bunds, proposed diversion/re-channelling of the water courses, etc., approach roads, major haul roads, etc should be indicated.</td></tr>
<tr><td>14.</td><td>Original land use (agricultural land/forestland/grazing land/wasteland/water bodies) of the area should be provided as per the tables given below. Impacts of project, if any on the land use, in particular, agricultural land/forestland/grazing land/water bodies falling within the lease/project and acquired for mining operations should be analyzed. Extent of area under surface rights and under mining rights should be specified. Area under Surface Rights
<table>
<tr><th rowspan="2">S.N</th><th rowspan="2">ML/Project Land use</th><th>Area under Surface</th><th>Area Under Mining Rights(ha)</th><th rowspan="2">Area under Both (ha)</th></tr>
<tr><th>Rights(ha)</th><th>(ha)</th></tr>
<tr><td>1</td><td>Agricultural land</td><td></td><td></td><td></td></tr>
<tr><td>2</td><td>Forest Land</td><td></td><td></td><td></td></tr>
<tr><td>3</td><td>Grazing Land</td><td></td><td></td><td></td></tr>
<tr><td>4</td><td>Settlements</td><td></td><td></td><td></td></tr>
<tr><td>5</td><td>Others (specify)</td><td></td><td></td><td></td></tr>
</table>
<table>
<tr><th>S.N.</th><th>Details</th><th>Area (ha)</th></tr>
<tr><td>1</td><td>Buildings</td><td></td></tr>
<tr><td>2</td><td>Infrastructure</td><td></td></tr>
<tr><td>3</td><td>Roads</td><td></td></tr>
<tr><td>4</td><td>Others (specify)</td><td></td></tr>
<tr><td></td><td>Total</td><td></td></tr>
</table></td></tr>
<tr><td>15.</td><td>Study on the existing flora and fauna in the study area (10km) should be carried out by an institution of relevant discipline. The list of flora and fauna duly authenticated separately for the core and study area and a statement clearly specifying whether the study area forms a part of the migratory corridor of any endangered fauna should be given. If the study area has endangered flora and fauna, or if the area is occasionally visited or used as a habitat</td></tr>
</table>

	by Schedule-I species, or if the project falls within 15 km of an ecologically sensitive area, or used as a migratory corridor then a Comprehensive Conservation Plan along with the appropriate budgetary provision should be prepared and submitted with EIA-EMP Report; and comments/observation from the CWLW of the State Govt. should also be obtained and furnished.
16.	One-season (other than monsoon) primary baseline data on environmental quality - air (PM10, PM2.5, SOx, NOx and heavy metals such as Hg, Pb, Cr, As, etc), noise, water (surface and groundwater), soil - along with one-season met data coinciding with the same season for AAQ collection period should be provided. The detail of NABL/ MoEF&CC certification of the respective laborartory and NABET accreditation of the consultant to be provided.
17.	Map (1: 50, 000 scale) of the study area (core and buffer zone) showing the location of various sampling stations superimposed with location of habitats, other industries/mines, polluting sources, should be provided. The number and location of the sampling stations in both core and buffer zones should be selected on the basis of size of lease/project area, the proposed impacts in the downwind (air)/downstream (surface water)/groundwater regime (based on flow). One station should be in the upwind/upstream/non-impact/non-polluting area as a control station. The monitoring should be as per CPCB guidelines and parameters for water testing for both ground water and surface water as per ISI standards and CPCB classification wherever applicable. Observed values should be provided along with the specified standards.
18.	For proper baseline air quality assessment, Wind rose pattern in the area should be reviewed and accordingly location of AAMSQ shall be planned by the collection of air quality data by adequate monitoring stations in the downwind areas. Monitoring location for collecting baseline data should cover overall the 10 km buffer zone i.e. dispersed in 10 km buffer area. In case of expansion, the displayed data of CAAQMS and its comparison with the monitoring data to be provided
19.	A detailed traffic study along with presence of habitation in 100 mts distance from both side of road, the impact on the air quality with its proper measures and plan of action with timeline for widening of road. The project will increase the no. of vehicle along the road which will indirectly contribute to carbon emission so what will be the compensatory action plan should be clearly spell out in EIA/ EMP report.
20.	The socio-economic study to conducted with actual survey report and a comparative assessment to be provided from the census data should be provided in EIA/ EMP report also occupational status & economic status of the study area and what economically project will contribute should be clearly mention. The study should also include the status of infrastructural facilities and amenities present in the study area and a comparative assessment with census data to be provided and to link it with the initialization and quantification of need based survey for CSR activities to be followed.
21.	The Ecology and biodiversity study should also indicate the likely impact of change in forest area for surface infrastructural development or mining activity in relation to the climate change of that area and what will be the compensatory measure to be adopted by PP to minimize the impact of forest diversion.
22.	Baseline data on the health of the population in the impact zone and measures for occupational health and safety of the personnel and manpower for the mine should be submitted.
23.	Impact of proposed project/activity on hydrological regime of the area shall be assessed and report be submitted. Hydrological studies as per GEC 2015 guidelines to be prepared and submitted
24.	Impact of mining and water abstraction from the mine on the hydrogeology and groundwater regime within the core zone and 10 km buffer zone including long-term monitoring measures should be provided. Details of rainwater harvesting and measures for recharge of groundwater should be reflected in case there is a declining trend of groundwater availability and/or if the area falls within dark/grey zone.
25.	Study on land subsidence including modeling for prediction, mitigation/prevention of subsidence, continuous monitoring measures, and safety issues should be carried out.
26.	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.
27.	PP shall submit design details of all Air Pollution control equipment (APCEs) to be implemented as part of Environment Management Plan vis-à-vis reduction in concentration of emission for each APCEs
28.	PP shall propose to use LNG/CNG based mining machineries and trucks for mining operation and transportation of coal. The measures adopted to conserve energy or use of renewable sources shall be explored
29.	PP to evaluate the green house emission gases from the mine operation/ washery plant and corresponding carbon absorption plan.
30.	PP shall explore the use of vent gases as generated from under ground Mine for use of energy generation/ in house energy consumption
31.	Site specific Impact assessment with its mitigation measures, Risk Assessment and Disaster Preparedness and Management Plan should be provided.
32.	Impact of stowing by using coal washery rejects/ flyash/ bottom ash shall be assessed in term of leachate generation and its characteristics
33.	Impact of choice of mining method, technology, selected use of machinery and impact on air quality, mineral transportation, coal handling & storage/stockyard, etc, Impact of blasting, noise and vibrations should be provided.
34.	Impacts of mineral transportation within the mining area and outside the lease/project along with flow-chart indicating the specific areas generating fugitive emissions should be provided. Impacts of transportation, handling, transfer of mineral and waste on air quality, generation of effluents from workshop etc, management plan for maintenance of HEMM and other machinery/equipment should be given. Details of various facilities such as rest areas and canteen for workers and effluents/pollution load emanating from these activities should also be provided.
35.	Effort be made to reduce/eliminate road transport of coal inside and outside mine and for mechanized loading of coal through CHP/ Silo into wagons and trucks/tippers.
36.	Details of various facilities to be provided to the workers in terms of parking, rest areas and canteen, and effluents/pollution load resulting from these activities should also be given.
37.	The number and efficiency of mobile/static water jet, Fog cannon sprinkling system along the main mineral transportation road inside the mine, approach roads to the mine/stockyard/siding, and also the frequency of their use in impacting air quality should be provided.
38.	Impacts of CHP, if any on air and water quality should be given. A flow chart showing water balance along with the details of zero discharge should be provided.
39.	Conceptual Final Mine Closure Plan and post mining land use and restoration of land/habitat to the pre- mining status should be provided. A Plan for the ecological restoration of the mined out area and post mining land use should be prepared with detailed cost provisions. Impact and management of wastes and issues of re-handling (wherever applicable) and backfilling and progressive mine closure and reclamation should be furnished.
40.	Adequate greenbelt nearby areas, coal stock yard and transportaion area of coal shall be provided with details of species selected and survival rate Greenbelt development should be undertaken particularly around the transport route and CHP.
41.	Cost of EMP (capital and recurring) should be included in the project cost and for progressive and final mine closure plan.
4	Details of R&R. Detailed project specific R&R Plan with data on the existing socio- economic status of the

<table>
<tr><td>2.</td><td>population (including tribals, SC/ST, BPL families) found in the study area and broad plan for resettlement of the displaced population, site for the resettlement colony, alternate livelihood concerns/employment for the displaced people, civic and housing amenities being offered, etc and costs along with the schedule of the implementation of the R&R Plan should be given.</td></tr>
<tr><td>43.</td><td>CSR Plan along with details of villages and specific budgetary provisions (capital and recurring) for specific activities over the life of the project should be given.</td></tr>
<tr><td>44.</td><td>Corporate Environment Responsibility:</td></tr>
<tr><td>45.</td><td>a) The Company must have a well laid down Environment Policy approved by the Board of Directors.</td></tr>
<tr><td>46.</td><td>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.</td></tr>
<tr><td>47.</td><td>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.</td></tr>
<tr><td>48.</td><td>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.</td></tr>
<tr><td>49.</td><td>e) Environment Managament Cell and its responsibilities to be clearly spleel out in EIA/ EMP report</td></tr>
<tr><td>50.</td><td>f) In built mechanism of self-monitoring of compliance of environmental regulations should be indicated.</td></tr>
<tr><td>51.</td><td>Submission of sample test analysis of Characteristics of coal: This should include details on grade of coal and other characteristics such as ash content, S and heavy metals including levels of Hg, As, Pb, Cr etc.</td></tr>
<tr><td>52.</td><td>Status of any litigations/ court cases filed/pending on the project should be provided.</td></tr>
<tr><td>53.</td><td>PP shall submit clarification from PCCF that mine does not falls under corridors of any National Park and Wildlife Sanctuary with certified map showing distance of nearest sanctuary.</td></tr>
<tr><td>54.</td><td>Copy of clearances/approvals such as Forestry clearances, Mining Plan Approval, mine closer plan approval. NOC from Flood and Irrigation Dept. (if req.), etc. wherever applicable.</td></tr>
<tr><td>55.</td><td>Details on the Forest Clearance should be given as per the format given:
<table>
<tr><td>Total Project (ha)</td><td>ML Area</td><td>Total Forest land (ha)</td><td rowspan="2">Date of FC</td><td rowspan="2">Extent of Forest Land</td><td rowspan="2">Balance area for which FC is yet to be obtained</td><td rowspan="2">Status of appl For diversion of forest land</td></tr>
<tr><td></td><td></td><td>If more than one provide details of each FC</td></tr>
</table></td></tr>
<tr><td>56.</td><td>In case of expansion of the proposal, the status of the work done as per mining plan and approved mine closure plan shall be detailed in EIA/ EMP report</td></tr>
</table>

57.	Details on Public Hearing should cover the information relating to notices issued in the newspaper, proceedings/minutes of Public Hearing, the points raised by the general public and commitments made by the proponent and the time bound action proposed with budgets in suitable time frame. These details should be presented in a tabular form. If the Public Hearing is in the regional language, an authenticated English Translation of the same should be provided.
58.	PP shall carry out survey through drone highlighting the ground reality for atleast 10 minutes
59.	Detailed Chronology of the project starting from the first lease deed alloted/Block allotment/ Land acquired to its No. of renewals, CTO /CTE with details of no. renewals, previous EC(s) granted details and its compliance details, NOC details from various Govt bodies like Forest NOC(s), CGWA permissions, Power permissions, etc as per the requisites respectively to be furnished in tabular form.
60.	A copy of application submitted for 5 star rating system to Ministry of coal for expansion cases may be provided. Certificate /rating given to project shall be provided with EIA-EMP report
61.	The first page of the EIA/ EMP report must mention the peak capacity production, area, detail of PP, Consultant (NABET acrreditation) and Laboratory (NABL / MoEF & CC certification)
62.	The compliances of ToR must be properly cited with respective chapter section and page no in tabular form and also mention sequence of the respective ToR complied within the EIA-EMP report in all the chapter,s section.

3.4. Agenda Item No 4:

3.4.1. Details of the proposal

Arjuni East Coal Mine, Sohagpur Coal Field (Block Area: 1044.819 ha) with Proposed Coal Production Capacity: 1.36 Million TPA located at Villages: Arjuni, Badwahi, Dhaurai & Pahadiya, Tehsil: Pali, District: Umaria, Madhya Pradesh. by **ULTRATECH CEMENT LIMITED** located at **UMARIA,MADHYA PRADESH**			
Proposal For		Fresh ToR	
Proposal No	**File No**	**Submission Date**	**Activity (Schedule Item)**
IA/MP/CMIN/468586/2024	IA-J-11011/236/2024-IA-II(M)	30/05/2024	Mining of minerals (1(a))

3.4.2. Project Salient Features

13.4.1: The present proposal is for grant of Terms of Conditions (ToR) of Arjuni East Coal Mine Sohagpur Coal Field (Block Area: 1044.819 ha, Capacity: 1.36 MTPA), located at Arjuni, Badwahi, Dhaurai & Pahadiya, Tehsil Pali, Umaria District, Madhya Pradesh.

Ultratech Cement Limited has made an application online vide proposal no IA/MP/CMIN/468586/2024 dated 17.05.2024 along with the application in the prescribed format (Form-I) and pre-feasibility report for undertaking a detailed EIA study as per the EIA Notification, 2006 for the project mentioned above. The proposed project activity is listed at S. No. 1(a) Under Category “A” (> 500 Ha) of the schedule of the EIA Notification, 2006 and appraised at the Central Level.

13.4.2: Details of the proposal, as ascertained from the proposal documents and as revealed from the discussion held during the meeting, are given as under:

13.4.2.1: Location:

i. The project area is covered under Survey of India Topo sheet No. F44D7 (64E/7) and is bounded by the geographical coordinates ranging from latitudes 23°20’37’’ N and 23°22’55” N and longitudes 81°15’35’’

E to 81°17’23” E.

ii. PP reported that the General Conditions are not applicable to this project and the project does not fall under any critically polluted area.

13.4.2.2: Forest Area: PP submitted that the project involved total 498.463 ha of forest land. Forest Clearance application made vide application no FP/MP/MIN/QRY/458491/2024, Dt.15.05.2024 and the proposal for approval is under progress. The PP also submitted that there are total 5 reserved forests and 9 protected forest within 10 km radius. PP further submitted that total 29.455 ha of forest area is proposed to be diverted. The extent of forest land in the project (including safety zone and all types of forest land) is 498.463 ha. Also, the PP stated that there is no violation of FC Act.

13.4.2.3: Protected Area: PP submitted that the project is not located within 10 Km of any ESZ/ ESA/ National Park, Wildlife Sanctuary/ Biosphere Reserve/ Tiger Reserve/ Elephant Reserve/ Elephant Corridor, etc and no violation of WLP, Act is reported. However, the PP submitted that there is tiger corridor connecting Bandhavgarh National Park and Achanakmar Wildlife Sanctuary, in 7.5 km west direction. The PP further submitted that WL management plan will be prepared and will be part of the EIA EMP report. Regarding the presence of Schedule – I species and the conservation plan in that regard, the PP has submitted that a detailed study is under process and the same will be incorporated in the EIA/EMP Report.

13.4.2.4: Mining Lease: PP submitted the details of the mining lease as follows:

S. No.	Govt. Order/Notifications as the case maybe	Area (ha)
1	UltraTech Cement Limited has been declared as successful bidd er in accordance with provision of rule 5(7) of the Coal Block A llocation Rules 2017 (the Rules) letter dated 27.03.2023 issued by Ministry of Coal	1044.819
2	UltraTech Ltd. have also signed the Coal Block Development & Production Agreement with the Govt. of India on 29.03.2023	1044.819
3	The block allocated by Ministry of Coal, Government of India, Allocation order No: NA-104/2/2023-NA dated 08.06.2023	1044.819
Total – 1		1044.819
4	Details of LOI (for area outside lease area)	-
Grand Total		1044.819

PP submitted that the date of Block allotment by the Nominated authority, Ministry of Coal, Govt of India is 08.06.2023 and its expiry date is 30 years from the date of Mining Lease execution & registration.

13.4.2.5: Mining Plan: PP submitted that the Mine plan & Mine Closure plan for the project were approved by the Ministry of Coal for (Rated capacity 1.36 MTPA & Peak Capacity: 2.04 MTPA, Area 1044.819Ha) vide letter no ARJUNI EAST COAL MINEMPMP043/APP00258/2023, dated 12.01.2024.

13.4.2.6: Method of Mining: The PP has submitted the following:

iii) The total geological reserve reported in the mine lease area is 131.833 MT with 54.918 MT mineable reserve. Out of the total mineable reserve of 28.30 MT are available for extraction. Percent of extraction is 21.467%.

iv) 14 seams with thickness ranging from 0.30 m to 7.56 m are workable. Grade of coal is G9 to G16. During excavation of coal from underground mining there is no generation of OB; hence, details of stripping ratio are not applicable. The gradient is around 1 in 35 to 1 in 50.

vi) At conceptual stage, 0.065 Million CuM of waste rock will be generated from inclines & shaft. This is proposed to be spread out in the infrastructure area and proposed to be used for construction of road & backfilling of low-lying infrastructure area.

vii) Total block area is 1044.819 ha; out of which, 231.454 ha is Govt. Land, 314.902 ha is Pvt. Land and 498.463 ha is Forest Land. At conceptual stage, 9.25 ha area to be developed under greenbelt/plantation within & around facilities. 19.045 Ha for Roads & Infrastructure, 0.700 for

UG entry, 0.250 Ha for Top Soil Dump, 0.210 Ha for Settling Pond. 1015.364 ha area will remain undisturbed or mining right for underground mining.

S. No.	Land Use	Within ML Area (Ha)	Outside ML Area (Ha)	Total (Ha)
1.	Agricultural Land	310.740	-	310.740
2.	Forest Land	498.463	-	498.463
3.	Waste Land	0	-	0
4.	Grazing Land	9.268	-	9.268
5.	Surface Water Bodies	2.222	-	2.222
6.	Settlements	12.983	-	12.983
7.	Other (Barren Land, Roads/Other Infrastructure, Reserve, Other)	211.143	-	211.143
Total		1044.819	-	1044.819

S. No.	Type	Total Area	Reclaimed Area	Un-claimed Area
	Excavation/ Quarry Area:	-	-	-
	(a) Backfilled Areas	-	-	-
	(b) Excavated Void	0.700	0.700	-
	External Dump	-	-	-
	Safety Zone	-	-	-
	Road & Infrastructure	19.045	19.045	-
	Garland Drains	-	-	-
	Embankment	-	-	-
	Others (UG Entry, Settling Pond, Green Belt/Plantation, Undisturbed OR Mining Right For UG)	1025.074	9.71	1015.364

Total	1044.819	29.455	1015.364

ix) Details of transportation of Coal: PP submitted that the coal is proposed to be transported within the outside mining lease in the following manner:

a. In pit: From underground face via network of belt conveyors which will discharge into 3 x 150 tonner bunker to be installed at surface.

b. Surface to siding: Coal from this bunker will be loaded onto the trucks and transported to the nearest railway siding and it will be transported to the nearby Plants of UltraTech Cement Limited via covered trucks.

c. Siding to loading: Coal from this bunker storage will be loaded onto the trucks and to be transported via road to nearest road to nearest railway siding or end user or Cement Plant of UltraTech Cement Ltd. via covered trucks.

d. Proposed change in transportation means if any, give details: Two routes via road are proposed for transportation of Mineral. Both the routes (Route 1 & Route 2) touch the National Highway 43, which is around 2.5 km towards the south of the block which could be used for evacuation of coal from the mine.

x) PP reported that there are 4 nos Revenue village: Arjuni, Badwahi, Dhaurai & Pahadiya. Habitation of Village Arjuni, Badwahi, Dhaurai & Pahadiya lying within the mine block. Due to proposal of underground mining, no relocation and rehabilitation of Villages are proposed. Therefore, R&R Plan is not applicable.

xi) **Reclamation:** PP reported that reclamation plan includes the following:

1. Reclaimed external OB dump (in ha): Nil
2. Internal dump (in ha) – Nil
3. Green belt (in ha) 9.25 Ha within & around facilities.
4. Density of tree plantation (in no of plants) – 23,125 nos of saplings @2500 per Ha.
5. Void (in ha) at a depth of (in m) which is proposed to be converted into water body: Nil.
6. Others in ha (such as excavation area along ML boundary, along roads and infrastructure, embankment area and in township located outside the lease etc): 19.045 for Roads & Infrastructure, 0.700 for UG entry, 0.250 for Top Soil Dump, 0.210 Ha for Settling Pond will be reclaimed and Afforestation shall be done as per Approved Mine Closure Plan in Consultation with the Forest Dept.

13.4.2.7: Legal Issues/ Violation: PP reported that there is no legal issue/ violation w.r.t Environment (Protection) Act, ii) Air(P&CP) Act, Water (P&CP), Act, Forest Conservation Act, Wildlife Protection Act, CRZ Notification, MMDR Act, Factories Act. Further, there is no court case on the project.

13.4.2.8: Baseline Studies: PP reported that baseline data has been collected during Post Monsoon Season (Oct., to Dec., 2023) and will be included in the EIA Report.

13.4.2.9: Water Requirement: PP reported that Potable water is proposed to be sourced through borewells. In development stage, Industrial requirement is proposed to be met through borewells and in later years proposed to be met through treated water pumped from the mine. The ground water table will be intersected during the underground mine workings. Comprehensive Hydrogeological Study, Ground Water Modelling is under progress and preparation of application for obtaining permission from CGWA is under progress and will be submitted along with the EIA/EMP Report. Total water requirement is 1300 KLD, same will be sourced from ground water & mine seepage. Prior permission for ground water abstraction & dewatering of ground water will be taken from the Central Ground Water Authority.

13.4.2.10: Waste: PP reported that details of solid and hazardous waste generation along with its mode of treatment/ disposal will be furnished as below:

S. No	Type of Waste	Source	Quantity (TPA)	Mode of Treatment	Disposal	Remarks
1.	Solid Waste (Dome	Mine Site	15	Organic Compost	The same will be used as Man	---

	stic waste)			er and Vermi-Compost Pits.	ure in Greenbelt- By Road	
2.	Plastic Waste (Packing material)	Equipment/components/spare parts packing	0.5	-	Through registered agencies - By Road	---
3.	E-waste IT equipment, electronic parts, cartridges of printer)	Laptops/Desktops/Servers/Printers/Electronics equipment.	160	-	Through registered vendors - By Road	---
4.	Batteries Waste	Caplamp-350, UPS-40 Machineries-12, FSV-3	83	-	Returned to OEM/Supplier - By Road	---
5.	Hazardous Waste (Lubricants, gear oil, engine oil and hydraulic oil)	Mine Site	45	-	Sold to the authorized CPCB recyclers through Registered Agencies - By Road	---
6.	C & D Waste (Houses, Shelter of Village Habitants)	Mine Site	335	-	Will be utilized in road leveling and construction work- By Road inside lease or to be sent to authorized recyclers/ vendors	---
7.	Waste Rock	Mine Site	0.572	-	Will be utilized in road levelin	---

					g, low lyin g area and constructi on work- By Road i nside leas e.	

13.4.2.11: R&R Plan:

PP reported that the proposed mine site is falling in 04 Revenue Village viz. Arjuni, Badwahi, Dhaurai & Pahadiya. Habitation of Village Arjuni, Badwahi, Dhaurai & Pahadiya lying within the mine block. Due to proposal of underground mining, no relocation and rehabilitation of are proposed. Therefore, R&R Plan is not applicable.

3.4.3. Deliberations by the committee in previous meetings

N/A

3.4.4. Deliberations by the EAC in current meetings

The PP and the NABET Accredited Consultant made a detailed presentation and the Committee deliberated on the various aspects of the project. The observations made by the EAC are as follows:

1. The proposal of Ultratech Cement Limited is for grant of Terms of Reference (To R) to Arjuni East Coal Mine, (Sohagpur Coal Field) with rated capacity of 1.36 MTPA in an area of 1044.819 ha located at Villages: Arjuni, Badwahi, Dhaurai & Pahadiya, Tehsil: Pali, District: Umaria, Madhya Pradesh.

2. The Ministry of Coal vide allocation order No: NA-104/2/2023-NA dated 08.06.2023, allotted Arjuni East Coal Mine to Ultratech Cement Limited.

3. The Mining plan and the Mine Closure plan for the capacity of 1.36 MTPC/2.04 PA (targeted/ peak), within the lease area of 1044.819 Ha, were approved by the Ministry of Coal vide letter dated 12.01.2024.

4. PP submitted that the project involved 498.463 ha of forest land. Forest Clearance application made vide application no FP/MP/MIN/QRY/458491/2024, Dt.15.05.2024 and the proposal for approval is under progress. PP further submitted that 29.455 ha of forest area is proposed for diversion i.e. to be broken up. PP also submitted that there are 5 reserved forests and 9 protected forests within a 10 km radius. The extent of forest land in the project (including the safety zone and all types of forest land) is 498.463 ha. Also, the PP stated that there is no violation of the FC Act.

5. The Committee observed that shaft and incline and other mining infrastructure is proposed in forest land. The Committee asked why it cannot be shifted to non-forest land. PP submitted that this is the only feasible location they have found as per the mining conditions. The Committee also observed that the second transportation route proposed by PP is also through forest roads. The Committee therefore of the view that PP shall submit brief environmental analysis of 3 alternative sites for the position of shaft, incline and other infrastructure to avoid forest land. The Committee is also of the view that UG is mainly for deeper seams, but have advantage to save surface features including forest.

6. The Committee observed that PP has planned the infrastructure activities viz; Road, UG Entry, Topsoil Dump, Settling Pond etc. in the forest area. The Committee is of the view that PP should explore the possibility of making infrastructure in the Non-Forest area and study at least three such locations in the Non-Forest area to minimise the impact on forest habitation. PP vide email dated 2.07.2024 submitted the three site analysis and opted for option-1. The Committee is of the view that this needs further deliberation. Therefore, the Committee is of the view that PP shall get the study done by ISM Dhanbad/Kharagpur on whether the shaft and incline can be placed in the non-forest land or not. The study should also suggest the possible location of the same. The study should also comment on the alternative suggested by PP.

7. The Committee observed that the project does not fall under Critically Polluted Area (CPA)/ Severely Polluted Area (SPA) as per CEPI Assessment 2018. PP also submitted that Durgapur (CPA) is at a distance of 20 Km from the lease area.

8. PP submitted that the project is not located within 10 Km of any ESZ/ ESA/ National Park, Wildlife Sanctuary/ Biosphere Reserve/ Tiger Reserve/ Elephant Reserve/ Elephant Corridor, etc and no violation of WLP, Act is

reported. However, the PP submitted that there is tiger corridor connecting Bandhavgarh National Park and Achanakmar Wildlife Sanctuary, in 7.5 km west direction. The PP further submitted that WL management plan will be prepared and will be part of the EIA EMP report. Regarding the presence of Schedule – I species and the conservation plan in that regard, the PP has submitted that a detailed study is under process and the same will be incorporated in the EIA/EMP Report.

9. The baseline study and the data collection were done during Post Monsoon Season (Oct., to Dec., 2023) according to the Ministry's O.M. dated 08 June 2022.

10. PP reported that there are 4 nos Revenue village: Arjuni, Badwahi, Dhaurai & Pahadiya. Habitation of Village Arjuni, Badwahi, Dhaurai & Pahadiya lying within the mine block. Due to proposal of underground mining, no relocation and rehabilitation of Villages are proposed. Therefore, R&R Plan is not applicable.

11. PP submitted that the total water requirement is 1300 KLD, same will be sourced from groundwater & mine seepage. Prior permission for groundwater abstraction & dewatering of groundwater will be taken from the Central Ground Water Authority.

12. PP submitted that the total electricity requirement is 10 MW, 33KV/6.6kV substation is envisaged which receive power by a double circuit overhead feeder from MPPKVVCL The Committee is of the view that PP shall also explore the possibility of using renewable energy and accordingly a plan in this regard may be submitted. Further, PP shall align the project towards achieving SDGs.

13. PP submitted that the total manpower requirement for the said project will be 750. The PP submitted that preference for employment will be given to the land losers according to their qualification and capabilities. The Committee is of the view that PP shall submit a plan for skill development of the PAF and nearby community so that they are capable enough to get employment/self-employed.

14. The project cost (expected) submitted by the PP is Rs. 547 Cr.

15. Details of reserves and resources submitted by the PP are as follows:

    - Net Geological reserves – 131.833 MT
    - Mineable reserves – 54.9180 MT
    - Extractable reserves – 28.30 MT
    - Life of Mine – 27 Years

16. PP submitted that the method of mining will be adopted shall be Mechanized Board and Pillar UG working with the deployment of Continuous Miners. Board and Pillar method of working is proposed with Continuous Miner package with Shuttle car, roof bolter and feeder breaker system. Two standard-height CMs and one low-height CM are proposed for operation. Wherever required, SDLs & LHDs may also be deployed for drivage of advanced galleries to support mechanization. In areas or situations where it is not possible to deploy CMs (having small workable coal patches major breakdown, overhaul etc.), it is proposed to extract the coal by drilling and blasting with LHD/semi-mechanized technology. The Committee is of the view that what is semi-mechanised technology and PP shall explore the possibility of using electric/e-vehicles/cleaner fuel (LNG/CNG) based mining machinery and trucks for mining operations and transportation of coal. Further, subsidence report is required to be submitted.

17. The Committee noted that two routes via road are proposed for transportation of Mineral by PP. Both the routes (Route 1 & Route 2) touch the National Highway 43, which is around 2.5 km towards the south of the block, which could be used for evacuation of coal from the mine. The Committee is of the view that since the 48% of the area of the mine falls in the Forest, PP shall avoid road transportation in the forest area.

18. The PP submitted that there is no litigation pending against the project and/ or land in which the project is proposed to be set up and has submitted an undertaking on this behalf.

19. At the conceptual stage, 0.065 Million CuM of waste rock will be generated from inclines & shafts. This is proposed to be spread out in the infrastructure area and proposed to be used for the construction of roads & backfilling of low-lying infrastructure areas. The Committee is of the view whether the same has been proposed in the mine plan or not.

*Based on the discussion held and the documents submitted the EAC **deferred** the proposal for the grant of Terms of Reference (ToR) to Arjuni East Coal Mine, (Sohagpur Coal Field) with rated capacity of 1.36 MTPA in an area of 1044.819 ha located at Villages: Arjuni, Badwahi, Dhaurai & Pahadiya, Tehsil: Pali, District: Umaria, Madhya Pradesh by Ultratech Cement Limited, for want of following information:*

3.4.5. Recommendation of EAC

Deferred for ADS

Day 2 -02/07/2024

3.1. Agenda Item No 1:

3.1.1. Details of the proposal

Proposed Gondkhari Underground Coal Mine (Kamptee Coalfield) of area 862.00 Ha, Targeted capacity – 2.0 M TPA, at Village – Gondkhari, Tehsil – Kalmeshwar, Dist. – Nagpur, State – Maharashtra - 440023 by **ADANI POWER MAHARASHTRA LIMITED** located at **NAGPUR,MAHARASHTRA**			
Proposal For		Amendment in EC	
Proposal No	**File No**	**Submission Date**	**Activity (Schedule Item)**
IA/MH/CMIN/472108/2024	IA-J-11011/46/2022-IA. II(M)	14/06/2024	Mining of minerals (1(a))

3.1.2. Project Salient Features

13.5.1:. The Proposal is for amendment in Environment Clearance granted Adani Power Maharashtra Limited (APML) vide letter no. IA-J-11011/46/2022-IA. II(M) dated 02.02.2024 production capacity 2.0/3.0 MTPA (Normative/Peak) in the mine lease area of 862.00 Ha located at Village Gondkhari, Tehsil Kalmeshwar, District Nagpur (Maharashtra).

13.5.2 The EAC during the deliberation observed the following:

- The Environment clearance for the project was granted under EIA Notification, 2006 vide Ministry's letter no. letter no. IA-J-11011/46/2022-IA. II(M) dated 02.02.2024 production capacity 2.0/3.0 MTPA (Normative/Peak) in the mine lease area of 862.00 Ha.
- The PP has now made an online application vide proposal no. IA/MH/CMIN/472108/2024 Dated 15.05.2024 for amendment of EC Miscellaneous Condition no. 9.9 and EC proposal particulars no. (iii) Clearance Type about area of EC dated 02.02.2024. PP has submitted the following amendment along with justification:

Specific/General Conditions	Details of Conditions	Amendment Sought	Justification
9. Miscellaneous Condition No. 9.9	9.9 No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment, Forests and Climate Change (MoEF&CC).	Change in infrastructure location within mine lease area, mainly mine entries through inclines and ventilation shaft.	**1. Change in location of land:** a. return shaft land was shifted from Khasra No. 236 private land to Khasra No. 274 private land due to issues in land availability. b. Incline land was shifted from Khasra No. 104, 106, 109 & 110 private land to Khasra No. 96 due to flatten the incline gradient and issues in land availability. c. There was also a technical requirement of a flatter gradient incline to be developed necessary

			for safe working. **2.** The acreage has also undergone changes. The proposed area w as **18.00 Ha** for infrastructure use but currently it has increas ed by an additional 3.31 Ha i. e. **Total 21.31 Ha.** **It is noteworthy to mention here that the increased acrea ge shall however be used for greenbelt development only.**
EC Particulars 2. The particulars o f the proposal are a s below :	(iii) Clearance Type : Mining EC Under 5 Ha	Mine lease area is 862 ha, which is m ore than 5 ha.	Mine lease area is 862 ha, whi ch is more than 5 ha.

3.1.3. Deliberations by the committee in previous meetings

N/A

3.1.4. Deliberations by the EAC in current meetings

PP along with NABET Accredited consultant made a detailed presentation on EC conditions that require amendments along with its justification. The Committee deliberated on various aspects of the proposal submitted and the presentation made by PP. After detailed deliberation, the Committee observed the following:

The PP applied to sought amendment in EC dated 02.02.2024 to change the i) location of Air return shaft land from Khasra No. 236 private land to Khasra No. 274 private land due to issues in land availability, ii) Incline land was shifted from Khasra No. 104, 106, 109 & 110 private land to Khasra No. 96 due to flatten the incline gradient and issues in land availability and iii) change in infrastructure area from 18.0 Ha to 21.31 Ha. The Committee observed that recently EC was granted why these aspects were not considered earlier, in this regard PP submitted that initially there was no dispute in land acquisition but now one of the member of the family is not agreed for the same, due to this shaft location is proposed to be changed.

PP further submitted that the location of the incline mouth and associated infrastructure has been shifted with a view to make the gradient of the incline milder/flatter (from 12° to 8°) for deploying tyre mounted trackless equipment for men/material transport. The location of the ventilation shaft has also been changed slightly accordingly. However, there are no other changes in UG layout of any seam. This modification will enable the deployment of safer and advanced mode of men/material transport system with FSVs/ Men transport in the mine. The Committee asked whether the vehicles used are of electric or diesel operated. PP submitted that only electric operated vehicle will be used.

PP further submitted that the proposed land use has also been increased to 21.31 ha (from 18.0 ha as proposed in the Mining Plan), 3.31 ha will be used to develop the green belt. The Committee observed that change in land use is in undisturbed area which is reducing from 694.47 Ha to 691.72 Ha i.e. 2.75 Ha and the increase in Agricultural land use area is from 21.3 Ha to 18.0 Ha i.e. (3.3 Ha) of which 3.3 Ha will be put for plantation. The Committee observed that green belt area is increasing from 2.0 Ha to 5.3 Ha and the Undisturbed/Mining Right for UG is reducing from 844.0 Ha to 840.7 Ha.

The PP also submitted that in EC Particulars Clearance type is mentioned as Mining EC Under 5 Ha. The Committee observed that some part of EC is system generated information and it should be as Fresh EC.

The Committee also discussed on the requirement of modification in the already approved mining plan for these changes. In this regard, PP submitted that the board approval letter dated 11.04.2024 for these changes wherein it has done as per clause 1.3 (B) of OM dated 29.05.2020 of M/o Coal. The Committee

is of the view that these changes seems to be not covered under minor changes and asked to get it clarified from M/o Coal. The Member Secretary confirmed the same from M/o Coal and it was informed that these are not covered as per above clause. The Committee took it seriously and is of the view that PP and consultant should get it clarified before submitting the proposal to MoEF&CC. The Committee observed that details provided in covering letter and brief submitted have some errors. The Committee therefore, ***returned the proposal in present form*** and proposal may be considered only after filling the form, rectifying the errors as pointed above and submit revised approved mining plan incorporating the changes proposed in the amendment.

3.1.5. Recommendation of EAC

Returned in present form

3.2. Agenda Item No 2:

3.2.1. Details of the proposal

Gare Palma Sector-I Coal Mine in Mand Raigarh Coalfield (Block Area: 3020.00 ha) with Coal Production Capacity: 15.00 Million TPA located at Tehsil: Tamnar, District: Raigarh, Chhattisgarh by Jindal Power Limited by **JINDAL POWER LIMITED** located at **RAIGARH,CHHATTISGARH**

Proposal For		Fresh ToR	
Proposal No	**File No**	**Submission Date**	**Activity (Schedule Item)**
IA/CG/CMIN/476273/2024	J-11015/40/2024-IA-II(M)	14/06/2024	Mining of minerals (1(a))

3.2.2. Project Salient Features

[Proposal No. IA/CG/CMIN/476273/2024; File No. J11015/40/2024-IA-II(M)); Consultant: J.M. Environet Pvt. Ltd.; Accreditation No. NABET/EIA/2326/RA 0308]

13.6.1: The present proposal is for grant of Terms of Conditions (ToR) for M/s. Jindal Power Limited having mine lease area 3020.0 ha with production capacity 15.0 MTPA, located at Villages: Aamgaon, Budiya, Bagbadi, Dhaurabhatha, Khuruslenga, Jharna, Libara, Mahloi, Jhinkabahal, Raipara, Samkera, Tilaipara, Bijna, Tehsil: Tamnar, District: Raigarh, Chhattisgarh. M/s. Jindal Power Limited has made an online application vide proposal no. IA/CG/CMIN/476273/2024 on 07.06.2024 along with the application in the prescribed format (Form – I), copy of pre-feasibility report and proposed ToRs for undertaking detailed EIA study as per EIA Notification, 2006 for the project mentioned above.

13.6.2: Details of the proposal, as ascertained from the proposal documents and as revealed from the discussion held during the meeting, are given as under:

13.6.2.1: Location:

i. The project area is covered under Survey of India Toposheet No. F44L8 (64N/8), F44L12 (64N/12)_and is bounded by the geographical coordinates ranging from Latitude: 22°04'0.09"N to 22°07'0.11"N and Longitudes 83°27'28.51"E to 83°33'47.74"E.

ii. PP reported that the General Conditions are not applicable on this project and the project does not fall under any critically polluted area.

13.6.2.2: Forest Area: PP submitted that the project involves total 119.277 Ha of forestland for which application to obtain approval has already been filed vide proposal no. FP/CG/MIN/QRY/478550/2024 dated 03.06.2024. The PP submitted that there is 77.093 Ha of broken forestland and there is no violation of FC Act.

13.6.2.3: Protected Area: The PP reported that the project is located at a distance of approx. 6.4 kms

from Charmar Jingol Elephant Corridor and there are total 17 nos of protected forests and 12 nos of reserve forests in the lease area. PP further reported the there is no violation of WLP Act. PP also submitted that wildlife study is under process to assess the wildlife issues involved and accordingly will prepare the Wildlife Management Plan.

13.6.2.4: Mining Lease: PP submitted that the mine lease was allotted via allocation order letter no. NA-104/14/2023-NA dated 08.06.2023 for the area of 3020 Ha. Expiry date of the allocation order is 16.11.2077.

13.6.2.5: Mining Plan: The PP submitted that the mining plan & mine closure plan for the project for 15.0 MTPA (normative), area 3020.0 Ha has been submitted to Ministry of Coal for approval. The approval of Mining Plan is under process.

13.6.2.6: Method of Mining: The PP submitted the following:

i) Method of mining to be adopted shall be Opencast. The Capacity of the mine applied for Normative capacity is 15.0 MTPA as per proposed mining plan.
ii) Excavation of Coal will be done by opencast mining with surface miner. The entire waste generated from the pit will be handled by conventional shovel dumper system.
iii) Total geological reserve reported in the mine lease area is 1097.64 MT with 332.03 MT is mineable reserve. Out of total mineable reserves of 332.03 MT, 301.80 MT is available for extraction. The percentage of extraction is 30.55 %.
iv) There are 19 workable seams in the block. The thickness of coal seam varies from 0.30 m to 17.16 m. The grade of coal is avg. G13, and gradient is 20 - 40.
v) Life of mine is 27 years.
vi) Coal is proposed to be mined by surface miners as the seam is almost flat with 2 degrees to 4 degrees' dip. Hence, most of the coal does not require drilling and blasting except the corners and edges which are beyond the reach of surface miner. Drilling & Blasting will also be required in overburden benches.
vii) The waste/OB handling is with shovel/dumper combination.
viii) The project has 01 external OB dumps in an area of 841.866 ha with 120 m height and 662.16 Mbcm of OB. 01 internal OB in an area of 1163.81 ha with 1483.81 Mbcm of OB is envisaged in the project.
ix) Total quarry area is 1227.94 ha out of which backfilling will be done in 1163.81 ha while final mine void will be created in an area of 64.13 ha with a depth of 295 m. Backfilled quarry area of 1163.81 ha shall be reclaimed with plantation. Final mine void is proposed for UG mining entries subject to detailed planning of the same.
x) **Details of Land usage**

S. No.	Land Use	Within ML Area (ha)	Outside MLArea (ha)	Total
1.	Agricultural Land	2,666.843	-	2,666.843
2.	Forest land	119.277	-	119.277
3.	Waste land	-	-	-
4.	Grazing land	23.86	-	23.86

5.	Surface Water Bodies	19.68	-	19.68
6.	Settlements	35.53	-	35.53
7.	Other (Road & Other Govt. land)	154.81	-	154.81
	Total	**3020**	**-**	**3020**

B. Land Use During Mining

S. No.	Particular	Plantation	Water Body	Public/ Company Use	Undisturbed	Total
1.	External OB	841.866	-	-	-	841.866
2.	Top soil Dump	-	-	-	-	-
3.	Excavation	-	-	-	-	1227.94
	Backfilled area	1163.81	-	-	-	1163.81
	Excavated Void	-	-	64.13	-	64.13
4.	Roads	-	-	-	-	-
5.	Built up areas	-	-	-	-	-
6.	Greenbelt	32.74	-	-	-	32.74
7.	Safety Zone	-	-	-	-	-
8.	Plantation (apart from greenbelt)	-	-	-	-	-
9.	Other (Settling Pond, Road Diversion, Road & Infrastructure Garland Drains, Embankment)	87.428	-	48.541	-	135.969
10.	Undisturbed area	-	-	-	781.485	781.485
	Total	2125.844		112.671	781.485	3020

S. No.	Description	Total Area	Reclaimed Area	Un-reclaimed area	

1.	Excavation/Quarry Area:	**1227.94**	-	-	
	(a) Backfilled Areas	1163.81	1163.81	-	
	(b) Excavated Void	64.13	-	64.13	
2.	External Dump	841.866	841.866	-	
3.	Safety zone	-	-	-	
4.	Road and Infrastructure	93.051	65.311	27.74	
5.	Garland drains	18.13	18.13	-	
6.	Embankment	0.547	0.547	-	
7.	Others (Settling Pond, Road Di version, Greenbelt, Undisturbed area)	838.466	36.18	802.286	
Total		**3020**	**2125.844**	**894.156**	

(i) In pit: Dumpers will dump on to hoppers and coal will be fed to conveyors for transportation to surface Coal Handling Plant

(ii) Surface to siding: Conveyor.

(iii) Siding to loading: By Mechanical means

(iv) Quantity being transported by Road/Rail/conveyor/ropeway: 15.00 Million TPA coal will be produced from the proposed block which will transported to Thermal Power Plant of M/s. Jindal Power Ltd. located at Tamnar, Raigarh, Chhattisgarh via pipe conveyor and surplus coal will be sold to the consumer after fulfilling the plant requirement through proposed railway siding.

xii) Detailed Status of Progressive Mining Closure Plan is not applicable as it is a Greenfield project.

xiii) **Details of villages/habitation in mine lease area**: There are 8 no. of villages within the mining lease area. All 8 villages are proposed to be rehabilitated. Rehabilitation is yet to start.

xiv) **Acquisition:** The land is yet to be acquired.

xv) **Reclamation:** Afforestation shall be done progressively covering an area of: 2125.844 ha at the end of mining. This will include:

i. Afforestation shall be done covering an area of 841.866 ha. Internal dump (in ha): 1163.81

ii. Greenbelt (in ha): 32.74

iii. Plantation will be done covering 3.44 ha area of settling pond 65.311 ha area of Road & Infrastructure 18.13 ha area of garland drains and 0.547 ha embankment.

iv. Density of tree plantation (in no of plants): 53,14,610 no. of saplings @ 2500/ha.

v. Void (in ha) at a depth of (in m) which is proposed to be converted into water body: The void of 64.13 ha at a depth of 295 m will be utilized as passage for Underground mining entry for exploring the feasibility of underground mining based on the results of scientific study proposed.

13.3.2.7: Legal issues/ Violation: PP reported that there is no legal issue/ violation w.r.t Environment (Protection) Act, ii) Air(P&CP) Act, Water (P&CP), Act, Forest Conservation Act, Wildlife Protection Act, CRZ Notification, MMDR Act, Factories Act. Further, there is no court case on the project.

13.3.2.8: Baseline Studies: PP submitted that baseline monitoring has already been done during post monsoon period March 2024-May 2024. PP reported that the Laboratory involved in analysis of water, air, noise & soil quality data, etc. has been accredited by the NABL bearing the Certificate of Accreditation No. TC-6821 and valid till 23.05.2025.

13.3.2.9: Water requirement: The PP reported that there is groundwater intersection involved, for which NoC from CGWA will be obtained later. PP reported that sources of water will be groundwater and bore well. Further, the water requirement reported by the PP during construction period is 650 KLD (for domestic and construction activity) and during operation phase 1550 KLD (for mining activity, sprinkling, and domestic purpose). PP also, reported that Koledega Nala diversion is proposed.

13.3.2.10: Solid and Hazardous Waste: PP submitted the following details of solid and hazardous waste generation along with its mode of treatment/ disposal:

S. No	Type of Waste	Source	Quantity (TPA)	Mode of Treatment	Disposal	Remarks
1.	Solid Waste (Domestic waste)	Mine Site	18	Organic Composter and Vermi-Compost Pits.	The same will be used as Manure in Greenbelt- By Road	
2.	Plastic Waste (Packing material)	Equipment/ components/spare parts packing	2	-	Through registered agencies - By Road	
3.	E-waste IT equipment, electronic parts etc.)	Laptops/Desktops/Servers/Printers/Electronics equipment.	9.5	-	Through registered vendors -By Road	
4.	Batteries Waste	Caplamp-350, UPS-40 Machineries-12, FSV-3	37	-	Returned to OEM/Supplier - By Road	
5.	Hazardous Waste (Lubricants, used oil)	Mine Site	56	-	Sold to the authorized CPCB recyclers through Regist	

					ered Agencies - By Road	
6.	C & D Waste (Houses, Shelter of Village Habitants)	Mine Site	9120	-	Will be utilized in road leveling and construction work- By Road	
7.	Over Burden	Mine Site	207720000	-	Waste will be utilized for backfilling and external dumping which will be rehabilitated by plantation.	

13.3.2.11: R&R Plan: The PP submitted that, The land of block area i.e. 3020 Ha falls in revenue boundary of 13 villages namely Aamgaon, Budiya, Bagbadi, Dhaurabhatha, Khuruslenga, Jharna, Libara, Mahloi, Jhinkabahal, Raipara, Samkera, Tilaipara and Bijna. Habitation of 8 villages falls within the block area namely Budiya, Bagbadi, Mahloi, Tilaipara/ Ravanguda, Bijna, Jharna, Khuruslenga & Raipara which will be shifted in due course of mining as per applicable laws after taking prior approval from Competent Authority. Habitation of remaining 5 villages falls outside the block area. Total no. of Project Affected Families are 4065, Project Displaced Families are 1824. The rehabilitation package provided for the displaced persons would be in conformity with the Govt. of India norms and as per the guidelines of the Central & State Govt. Detailed R&R plan will be prepared.

3.2.3. Deliberations by the committee in previous meetings

N/A

3.2.4. Deliberations by the EAC in current meetings

PP and the NABET Accredited Consultant made a detailed presentation and the Committee deliberated on the various aspects of the project including the method of mining, dumping, transportation, forest area etc. The observations made by the EAC are as follows:

1) The proposal of M/s. Jindal Power Ltd. is for grant of Terms of Reference (ToR) for the production of 15.0 MTPA from Gare Palma Sector-I Coal Mine in ML Area 3020.0 ha, located at Villages: Aamgaon, Budiya, Bagbadi, Dhaurabhatha, Khuruslenga, Jharna, Libara, Mahloi, Jhinkabahal, Raipara, Samkera, Tilaipara, Bijna, Tehsil: Tamnar, District: Raigarh, Chhattisgarh.

2) The Ministry of Coal vide Order No. NA-104/14/2023-NA dated 08.06.2023 issued an order regarding the allocation of mine lease. The Committee deliberated on the mine lease area of this particular block and observed that the mine plan is not yet approved and to ascertain the lease details asked the PP to submit lease boundary certificate demarked by the CMPDI. PP in this regard submitted the certified plan by CMPDI (letter dated 18.06.2024) for the block boundary of Gare Palma Sector-I Coal Block vide letter dated 18.06.2024.

3) The Committee deliberated on the approved Mine Plan and Mine Closure Plan. The PP submitted that the same has been submitted to the Ministry of Coal and is in the approval stage. The Committee asked the PP to apply again for TOR with the approved mine plan and mine closure plan after incorporating the changes in the Mine plan as suggested in ongoing EAC.

4) The Committee deliberated on the forest area involved in the lease area. PP submitted that the project involves total 119.277 Ha of forestland for which application to obtain approval has already been filed vide proposal no. FP/CG/MIN/QRY/478550/2024 dated 03.06.2024. PP submitted that the forest land proposed to be broken up is 77.093 Ha (revenue forest area) and there is no violation of FC Act. PP submitted that there are total 17 nos of protected forests and 12 nos of reserve forests in the lease area.

5) PP submitted that No National Park, Wild Life Sanctuaries, Biosphere Reserves, Tiger Reserves etc. within 10 km radius study area. However, Charmar-Jingol Elephant Corridor (~6.4 km in WSW direction). PP further reported the there is no violation of WLP Act. PP also submitted that wildlife study is under process to assess the wildlife issues involved and accordingly will prepare the Wildlife Management Plan.

6) PP reported that the project does not fall under any critically polluted area. The Committee observed that Raigarh district is not in list of CPA/SPA assessment made by CPCB in 2018.

7) Committee that baseline monitoring has already been done during post monsoon period March 2024-May 2024 which is in line with MoEF&CC OM dated 8.06.2022.

8) Committee observed that there is groundwater intersection involved, for which PP reported that NoC from CGWA will be obtained later. The sources of water will be groundwater and bore well. Further, the water requirement reported by the PP during construction period is 650 KLD (for domestic and construction activity) and during operation phase 1550 KLD (for mining activity, sprinkling, and domestic purpose). The Committee is of the view that PP shall optimise the water requirement to the extent possible and comply with MoEF&CC OM dated 26.05.2019.

9) PP reported that Koledega Nala is proposed to be diverted along the southern boundary of the block in the 10th year. The nallah Diversion will be implemented subject to approval from MoEF&CC and Water Resources Department of the State of Chhattisgarh. The committee was of the view that this diversion can be considered at a later stage.

10) The Committee deliberated on the plantation activities by the PP in this particular project. PP submitted that a greenbelt will be developed over an area of 32.74 Ha along 7.5m periphery of the mine. Further, PP submitted that plantation will be done covering 1163.81 Ha backfilled area, 841.866 Ha area of external dump. 3.44 Ha area of settling pond, 65.311 Ha area of road and infrastructure. 18.13 Ha area of garland drains and 0.547 Ha of embankment. PP submitted that at the conceptual stage, total 2125.844 Ha area will be covered under plantation and density of plantation would be 2500 trees per Ha. PP submitted that local and fruit bearing species will be planted in consultation with Local Forest Department. PP also submitted that plantation will be carried out along the periphery and around office, service areas, rest shelters, CHP etc. in order to mitigate the air pollution and noise pollution. The Committee asked the PP to plant at least 1 Lakh plants out of which 50,000 shall be Sal plantation and this plantation programmes should start immediately in this monsoon itself. The Committee also asked the PP to submit the concurrent plantation plan.

11) The Committee deliberated on the habitation and land uses in the lease area. The PP submitted that there are total 13 villages allocated in the block area, out of which total 8 villages will be shifted in due course of mining according to R&R Policy. PP also submitted that there are total 4065 project affected families and total 1824 project displaced families. PP submitted that the rehabilitation package provided for the displaced persons would be in conformity with the GoI norms and as per the guidelines of the Central & State Govt. PP submitted that accordingly the R&R plan will be prepared. The Committee also deliberated on the presence of schools in the block area. PP submitted that there are total 9 schools present in the block area and all of these will be shifted to carry out the mining activities. The Committee asked the PP to submit the livelihood plan along with the compensation of the project displaced and project affected families. The Committee also asked the PP to obtain a health report of the people residing in the area from a reputed health institution (preferably AIIMS or a government institute having facilities for occupational health) and submit the same. Detailed of prevalent disease in the area be taken from local state health authorities. The Committee also asked to submit the social impact assessment study report conducted by some reputed institution.

12) The Committee deliberated on the land use pattern of the block area. The PP submitted the proposed during mining

and post mining land use. The Committee asked the PP to convert the 64.13 Ha void into a water body, which the PP has proposed for UG mining entries otherwise. The Committee observed that proposed mine plan is for opencast only and therefore at this stage the void shall be converted into water body. Further, PP to reclaim all the agricultural land to the best fit for the agricultural purpose, post mining.

13) The Committee observed that there are multiple water bodies within the lease area and Kelo River is flowing through the boundary of the block area. The Committee deliberated that no nallah/ stream/ river diversion will be allowed at this stage and accordingly the mine plan shall be changed. Also, in future, if there is any diversion proposed, then the prior approval of ministry shall be obtained. The Committee asked the PP to get the Hydrological study done from IIT Dhanbad/ some reputed government institution and submit the same.

14) The Committee deliberated on the pollution measures and is of the view that PP is supposed to install at least 3 ambient monitoring devices in the block area and meterological stations.

15) The Committee deliberated on the carrying capacity of the block area and asked the PP to submit carrying capacity study report conducted by some reputed institution through state pollution control board which should also include this block and envisaged future industries/ mining operations.

16) The Committee is of the view that while giving TOR for the said project, a sub-committee shall visit the site for inspection.

17) The Committee observed that the mine plan is in draft stage and asked the PP what if there would be any change at the time of final approval. The Member Secretary informed that an EDS in this regard was also raised. The Committee is of the view that PP shall get the mining plan approved considering the above suggestions and accordingly submit the revised form. The Committee therefore, ***returned the proposal in present form***.

3.2.5. Recommendation of EAC

Returned in present form

3.3. Agenda Item No 3:

3.3.1. Details of the proposal

Gare Palma Sector-II Coal Mine Project of 23.60 MTPA (OC-22.0 MTPA + UG- 1.6 MTPA) over an area of 258 3.48 ha in District Raigarh, Chhattisgarh. by **Maharashtra State Power Generation Co. Ltd.** located at **RAIGAR H,CHHATTISGARH**			
Proposal For		Fresh EC	
Proposal No	**File No**	**Submission Date**	**Activity (Schedule Item)**
IA/CG/CMIN/466451/2024	J-11015/72/2016-IA.II(M)	20/03/2024	Mining of minerals (1(a))

3.3.2. Project Salient Features

13.1.1: The proposal is for Environment Clearance of Gare Palma Sector II Coal Mine project of 23.6 MTPA Capacity (22.0 MTPA opencast + 1.6 MTPA Underground) within the mining lease area of 2583.487 Ha of M/s Maharashtra State Power Generation Company Ltd located at Thili Rampur, Kunjemura, Gare, Saraitola, Muregaon, Radopali, Pata, Chitwahi, Dholnara, Bhalumura, Sarasmal and Libra villages, Tamnar Tehsil, Raigarh District, Chhattisgarh State.
13.2.2: Location: The project area is covered under Survey of India Topo Sheet No. F44L7, F44L8, F44L11 and F44L12 and is bounded by the geographical coordinates ranging from 22°06'24.215"N to

22°10'49.891"N and longitudes 83°26'15.433"E to 83°31'12.632"E.

Project does not fall in the Critically Polluted Area (CPA), where the MoEF&CC vide is OM dated 13th January, 2010 has imposed moratorium on grant of Environment Clearance.

13.2.2.1: Mining Lease: PP submitted that the block area has been acquired on 31.08.2015 vide allotment order no. 103/30/2015/NA for a total area of 2583.487 Ha.
13.2.2.2: Forest Area: PP submitted that the project involves 214.869 Ha of Forest Land. The Stage – II FC clearance for the same was obtained vide letter no. 8-06/2022-FC. The PP submitted that there is no broken forest land and there is no violation of FC Act.
13.2.2.3: Protected Area: PP submitted that the project is not located within 10 KM of any ESZ/ ESA/ national park/ wildlife sanctuary/ biosphere reserve/ tiger reserve/ elephant reserve/tiger corridor/elephant corridor etc. PP submitted that there is no violation of WLP Act. PP also submitted that there is presence of Schedule – I species in the concerned area and Wildlife Management Plan for the conservation of the same has been prepared and the same has been approved by PCCF, WL vide letter no. 494/12, dated 20.01.2021.
13.2.2.4: Mining Plan & Method of Mining: The mining plan & mine closure plan for the project was approved for (capacity 23.60 MTPA, Area - 2583.48 Ha area) vide letter no. 34011/16/2016-CPAM, dated 12.08.2016. PP submitted that it is an integrated project.

Pre-mining:

S. No.	Land Use	Within ML Area (ha)	Outside ML Area (ha)	Total
1.	Agricultural Land	2002.48	Nil	2002.48
2.	Forest land	214.869	Nil	214.869
3.	Waste Land	Nil	Nil	Nil
4.	Grazing Land	Nil	Nil	Nil
5.	Surface Water Bodies	56.17	Nil	56.17
6.	Settlements	79.18	Nil	79.18
7.	Other (Roads / Other infr astructure)	230.781	Nil	230.781

Post Mining:

S.N.	Land use During Mining	Plantation	Water Body	Public Use	Undisturbed	TOTAL
1.	External	0	0	0	0	0

	OB Dump					
2.	Top soil Dump	0	0	0	0	0
3.	Excavation	2440.55	0	0	0	2440.55
4.	Roads	0	0	30.30	0	30.30
5.	Built up area	0	0	50.94	0	50.94
6.	Green Belt	36.07	0	0	0	36.07
7.	Undisturbed Area (Under	0	0	0	15.42	15.42

	Kelo River)					
8	Bund			5.2		5.2
9	Settling Pond	0	5			5.0
	TOTAL	2476.62	5	86.44		

13.2.2.5: Transportation of Coal: The PP submitted that the coal is proposed to transport within the outside mining lease area in the following manner:

13.2.2.6: Legal Issues/ Violation: PP reported that there is no legal issue/violation wr.t i) Environment (Protection) Act, ii) Air(P&CP) Act, Water (P&CP), Act, Forest Conservation Act, Wildlife Protection Act, CRZ Notification, MMDR Act, Factories Act. Further, there is no court caseon the project.

13.2.2.7: Reclamation Plan: PP submitted that the reclamation plan includes afforestation, which shall be done progressively covering an area of: 2476.62 ha at the end of mining. This will include:

13.2.2.8: R&R: PP submitted that there are total 14 villages within the mining lease area. Detailed R & R studies has been carried out by reputed institute and suggestions made by the institute meeting the "The Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation & Resettlement Act, 2013 of Central government or Chhattisgarh State Model Rehabilitation Policy 2007.

13.2.2.9: Baseline Data: PP submitted that the environmental baseline data was generated in the pre-monsoon from 25th March to 15th June 2024. The AAQ parametersfor 25 Locations (minand max) values are [PM_{10} (37.50 to 82.70 µg/m^3); $PM_{2.5}$ (18.50 to 57.60 µg/m^3); SO_2 (4.40 to 25.40 µg/m^3); NOx (7.80 to 38.90 µg/m^3), CO (0.30 to 1.08 mg/m^3)]. Incremental GLC Level is PM10 =11.91805µg/m^3 (Level at 0 km in East Direction); SO2 = 0.9931µg/m^3 (Level at 0 km in East Direction); NOx = 1.4401 µg/m^3 (Level at 0 km in East Direction) and CO = 0.0000397 mg/m^3 (Level at 0 km in East Direction). Ground water quality for 22 Locations is [pH: 6.53 to 7.50; Total Hardness: 92 mg/l to 338 mg/l., Chlorides: 25.32 mg/l to a maximum of 72.44 mg/l, Fluoride: 0.21 mg/l to 0.70 mg/l]. Surface water quality for 22 Locations is [pH: 7.48 to 7.90 ; DO: 5.9 mg/l to 6.4 mg/l; BOD: 11.00 mg/l to 21.00 mg/l. and COD: 41 mg/l to 68 mg/l]. Noise levelsLeq (Day andNight) are 32.20 to 72.50 dB for the daytime and 30.20 to 60.00 dB for the Night time. PP reported that the Laboratory involved in analysis of water, air, noise & soil quality data, etc. has been accredited by the NABL/ MoEF&CC bearing the Certificate of Accreditation No. NABET/EIA/2225/RA 0278 and valid up to 26/09/2025. Traffic study has been

conducted at Milupara to Tamnar PWD road which adjacent from the mine site. Transportation of mineral will be done 100% by road up to siding. Existing PCU is 683 PCU/hr on Milupara to Tamnar PWD road and existing level of service (LOS) is C. PCU load after proposed project will be 683 (Existing) + 410 (Additional) PCU/hr and level of service (LOS) will be D. The level of service will "D" after including additional traffic due to proposed project. Based on the survey conducted, the project site does not have any species which fall under the Schedule I of The Indian Wildlife (Protection) Act, 1972 or under threatened category of The IUCN Red List of Threatened Species. But within the 10 km radius of project site (in Reserve Forest patches) three Schedule-I species were recorded as per the Forest records. Wildlife conservation plan has been approved by PCCF, WL vide letter no. 494/12, dated 20.01.2021.

13.2.2.10: Waste: The details of solid and hazardous waste generation along with its mode of treatment/disposal is furnished as below:

S. No.	Type of Waste	Source	Quantity (TPA)	Mode of Treatment	Disposal	Remarks
1	OB waste	Mining	2761 Mcum	Re-handling	Refilling of mine out area	Solid waste
2	Domestic waste	Workers & Admin office	3.76	Re-cycling	Food waste composter	
3	Sludge	STP	1.632	Re-cycling	Manure	
4	Used Oil	Mines Workshop	2224.82	Re-cycling	Through authorized Vendors/Recycler	Hazardous waste

13.2.2.11: Water Requirement: PP reported that the water requirement will be 2785 KLD and the source of water will be surface water, groundwater and mine sump water. PP submitted that there will be groundwater intersection involved and NOC for abstraction of ground water has been obtained from CGWA, new Delhi, vide letter no. CGWA/NOC/MIN/ORIG/2020/7943 and valid up to 05th May 2022 to dt. 04th May, 2022, for 1454 KLD. Renewal application has already been submitted at online portal (NOCAP) CGWA portal.

13.2.2.12: Plantation: Proposed greenbelt will be developed in 36.07 Ha. A 7.5 m wide greenbelt, consisting of at least 3 tiers around mine boundary will be developed as greenbelt and green cover as per CPCB/MoEF&CC. Local and native species will be planted with a density of 2500 trees per hectare. Total no. of 5641500 saplings in 2256.60 ha area will be planted and nurtured in hectares in 32 years.

13.2.2.13: Public Consultation: The PP submitted that PH notification was published in local and english newspaper (Dainik Bhaskar & Times of India) on 25.08.2019 and public consultation took place on 27.09.2019 at the Government Primary school ground of Dolesara village in Raigarh district. Mr. R.A Kuruvanshi (ADM) was the presiding officer present at the public consultation. The major issues involved in the PH were land, employment, environment, health check-up, education etc.

Sl No.	**Physical activity and action plan**		Total
			(Expenditure)
			(in Rs Cr)
	Name of the Activity Physical Targets	Name of the ActivityPhysical Targets	

1.1	Dolesara Water drinking facility in the village	(Drinking Water Filtration with purification and door to door distribution Project through Women Self Help Group)	0.38
1.2	Dolesara Provide school bus facility	School transportation Facility will be provided to the students, doing study in schools within 10 Km radius. (for 05 years)	0.60
1.3	Dolesara To provide sports facility	Kabaddi is a famous game among youths, a Kabaddi mat will be provided to the village team. Development of open Gym and sports item will be provided to school.	0.10
1.4	To provide food for poor children	Supplentary Nutritious food mixture will be provided to the children age from 3-6 year. (for 05 years) - approx 60 children in 03 Anganwadis X 180 days in a year X 05 years = 54000 @ 20/- per day	0.11
1.5	To provide Training centre for business purpose	Construction of Training Center Building ((1 hall, store room, washrooms with water facility)	0.12
1.61	Establishing sweing Center	Establising Tailoring Training center for women. Train 40 students every year (05 years project)	0.10
1.62	Masroom Traning	Provide training for Mashroom production - 50 Women every year (for 05 years)	0.025
1.7	To provide school teacher for primary School	Provide 03 Primary teachers for five years	0.18
1.9	To provide Toilet facility in school	Renovation of Toilets and urinals of Primary and Middle School	0.05
2.1	To Provide Water facility	Construction of water Tank (2 Lakh liter capcity) and provide tape connection in village.	0.80
2.2	Provide drainage facility	Construct of drainage in village	0.20
2.3	To Provide Girls Training Programme	Capacity building of Girls - Karate Training	0.05

2.4	Pond Deepening	Deepening of Purain-Muda Pond	0.08
2.5	Library Facility	Develop Library facility at the center of village (for 05 years)	0.05
2.6	Provide sports facility	Playground Leveling and Cricket Ground preparation	0.05
3.1	Provision for child education	Special teachers appointed in 03 Aanganwadi centers for pre-school education (for 05 years)	0.10
3.2	Provide Clean Water		repeated 1.1
3.3	Income generation activity for less women educated women		repeated 1.61 &1.62
4.1	To start english medium School	Provide support and facilitate for opening english medium school up to 5th standard.	0.40
4.2	To provide drinking Water facility		repeated 1.1
4.3	Playground facility		repeated 2.6
5.1	Construct School for children		repeated 4.1
5.2	Provide drinking Water facility		repeated 2.1
5.3	Develop Anagwandi Centers	Renovation of Anganwadi Centers and provide educational and sports material	0.10
6.1	Provide Health facilities	Renovation of Existing Sub Health Center and develop facilities and equipments for institutional delivery	0.08
7.1	Tree Plantation	Tree Plantation drive will be organized every year in the month of July and August. Plantat	0.05

		ion of 2000 trees every year in common place of village (for 05 years)	
8.1	To provide road	Construction of CC Road in Gare village	0.20
8.2	To Provide Health checkup camp	Free Health Checkup camps will be organized every week in the villages.	1.20
	Education facilities	Support teachers for special education of English and maths in middle school (5 years)	0.10
8.3	To Provide water facility	Borewell drilling, installation of Submersible pump with water tank construction	0.15
Total (527.50 Lakhs)			**5.275**

13.2.2.14: Cost of Project: The capital cost of the proposed project is Rs. 7463 Crores and the capital cost for environmental protection measures is proposed as Rs. 1484.53 Crores. The employment generation from the proposed project is 3400 persons. The CSR cost will be 2% of the average net profit and R&R cost will be 2435 Crores. The Cost of implementing EMP (Capital and Recurring both) will be Rs. 1484.53 crores in which 1027.66 crores is for Progressive Closure and 456.87 Crores is for Final Closure of Mine.

Heads	Total Amount, Rs. Lakh	Recurring Cost (Lakh)
Progressive Closure		
Safety and Security	1958.44	19.5844
Topsoil management	5628	56.28
Technical and biological reclamation of mined out land and OB dump	94174	941.74
Plantation over virgin area including Green Belt	143.44	1.4344
Water quality management	340	3.4
Air quality management	340	3.4
Subsidence monitoring	19.09	0.1909
Manpower cost and supervision	163.5	1.635
Sub Total	**102766.47**	**1027.6647**
Final Closure		
Dismantling of infrastructure, disposal/rehabili	2843.76	28.4376

tation of mining machinery		
Top soil management	955	9.55
Technical and biological reclamation of mined out land and OB dump	41424.12	414.2412
Landscaping and plantation	95	0.95
Power cost	40	0.4
Water quality management	12	0.12
Air quality management	12	0.12
Subsidence monitoring	0.91	0.0091
Manpower cost and supervision	4.5	0.045
Others, miscellaneous	300	3
Sub Total	**45687.29**	**456.8729**
Grand Total	**148453.76**	**1484.5376**

13.2.2.15: Undertaking/ Affidavit: PP submitted the undertaking that the information provided in Form-I in physical format and in pdf format of PARIVESH and the presentation made during the meeting have no deviation in respect to the said proposal. Also, there are no data entry errors in the information uploaded on the PARIVESH portal and the supporting documents uploaded on the PARIVESH portal are correct and duly authenticated. PP also submitted an affidavit for the project, that there is no construction/ mining done at the mine site or the construction done without any deviation as per previous EC obtained. Also, there is no litigation pending on the project at either NGT or any other court of law.

13.2.2.16: Consultant: PP submitted that QCI/NABET accredited consultant (M/s Vardan EnviroNet, Gurgaon) has been engaged for further activities for Environment Clearance**.** M/s Vardan EnviroNet, Gurgaon is accredited by QCI/NABET and NABL, NABET Certificate No – NABET/EIA/2326/RA 0284, Valid up to – May 04, 2026.

The proposal was last considered in 11th EAC, held on 09.05.2024 wherein the proposal was deferred for want of additional information. The proponent submitted the ADS reply vide letter dated 18.06.2024 uploaded on PARIVESH on 19.06.2024. Point-wise reply of ADS is given as below:

Sr. No.	EAC observations	Reply
	Additional information already sought by the EAC, including additional carrying capacity study as mentioned above.	<u>The compliance of the additional information, sought by the 9th EAC MoM dated 08.04.2024 with additional carrying capacity study are as follows: -</u> Further, Vardan Environet collected fresh base line monitoring data for the period of 25th March to 15th June 2024 to revalidate the previous EIA/EMP report. Revalidated EIA/EMP report along the fresh base line monitoring report has been submitted. Mahagenco engaged a reputed institute i.e Entrepreneurship Development Institute of India (EDII), Ahmedab

		ad (A National Resource Institute in Entrepreneurship Education, Research, Training & Institution Building. Promoted by IDBI Bank Ltd; IFCI Ltd, ICICI Ltd, SBI and Govt. of Gujarat. EDII also recognized as Centre o f Excellence by the Ministry of Skill Development & E ntrepreneurship, Govt. of India) to carry out a fresh soc io-economic study/ assessment. The report is submitte d. All gram Sabha meetings held to get the FRA certificat e from district Collector, Raigarh under Forest Conserv ation Act-1980 are submitted. <u>impact of the project on the health of people: -</u> Mahagenco engaged Central Institute of Mining and Fu el Research (CIMFR), Dhanbad (a Council of Scientifi c and Industrial Research (CSIR) institute, under Minis try of S&T. Gov. of India) for study to assess the antici pated health impact and mitigation measures for the vil lagers of GP-II coal block and surrounding areas. PP su bmitted the copy of report. During the 11th EAC meeting, the committee advised C ECB to conduct the additional or supplementary Carryi ng capacity study by the IIT/reputed government institu te to assess the impact of the proposed project on the lo cal environment along with its mitigation measures to b e undertaken. CECB has informed that they have engaged IIT-Patna f or the work and the report will be submitted to MoEF& CC. Mahagenco engaged IIT (ISM) to carry out the hydrolo gy study. In the same manner, the discharge data of Kelo river fo r the period of 1958-59 to 2005-06 which was available collected by Mahagenco from Kelo project Survey divi sion, Raigarh. (Letter from Executive Engineer is subm itted. Accordingly, IIT (ISM) conducted a fresh study and pr epared a report on Hydrology & Embankment design. PP submitted the report of the same. The wind rose diagram has been prepared using the typ ical meteorological data and the same is incorporated in the chapter 3 of EIA report. The monitoring teams deployed in the field on the cove rage area ratio and as per the direction of the wind. Mo nitoring report attached as annexure-XVII, of the EIA r eport. <u>purchase power generated from the renewable sources</u> The details of the support generation of renewable/ pur chase power generated from the renewable source is su bmitted. Groups initiatives in order of the Sustainable Develop ment Goals (SDG) for the sustainable mine operation is submitted. <u>surrounding area and post-mining ecological restoratio</u>

		n plan Mahagenco engaged IIT (ISM), Dhanbad to prepare a plan for protection of the ecology of the surrounding area and post mining restoration plan. PP also submitted the report for afforestation and greenbelt development. T*he number of saplings to be planted, area to be covered under afforestation & green belt, location of plantation, target for survival rate and budget earmarked for the afforestation & green belt development. The capital and recurring expenditure to be incurred needs to be submitted*. The seedling of height not less than 2 meters to be selected. PP submitted the detailed plan (year-wise for life of mine) for afforestation and greenbelt development in and around the mining lease. PP also submitted a detailed surface plan (year-wise for life of mine) showing the location of greenbelt development prepared. We agree that t*he height of the seedlings shall not be less than 2 meters* and plantation in the safety zone shall be completed within 2 years. surface or ground water to be used for this project. The complete water balance cycle needs to be submitted. In addition to this PP should submit a detailed plan for rainwater harvesting measures to be taken. The PP should submit the year wise target for reduction in consumption of the ground/surface water by developing alternative sources of water through rainwater harvesting measures. The capital and recurring expenditure to be incurred needs to be submitted. Total water requirement with quantity of surface or ground water to be used for this project with complete water balance cycle is mentioned in Chapter-2 section 2.13.2 of the EIA report. Rainwater harvesting potential is calculated with budget. PP submitted the details of the same. Periodical water audit will be conducted during the operation of the mine and directions will be followed for reduction in consumption of ground/surface water. designation of person to be engaged for implementation of environmental management plan (EMP). The capital and recurring expenditure to be incurred needs to be submitted. The details of designated persons are incorporated in chapter-6 section 6.4 & Fig. No. 6.1 of the EIA report enclosed as Annexure-A.
	Site visit report by the EAC Sub-Committee.	Site visit of EAC sub-committee has been conducted during 17th - 19th May 2024 and the report will be directly submitted to MoEF&CC by EAC sub-committee. (Site Visit intimation letter of MoEF&CC to Mahagenco is submitted)

	CECB shall provide their co mments and any other additi onal information in writing.	During 9th EAC meeting held on 09.05.2024 and subse quently MoM published on 08.04.2024, the clarificatio n was sought from CECB regarding the procedure adop ted for PH as per the EIA notification, 2006. Accordingly, CECB vide letter dated 29.04.2024 has su bmitted a detailed deliberation on the proceeding of the Public Hearing, which was done on 27.09.2019. PP als o submitted the copy of the same. However, during the 11th EAC meeting, the committee advised CECB to submit a written response as well as t heir opinion on procedure of PH. Accordingly, it has been informed that CECB has sub mitted their written response directly to MoEF&CC on the same. Clarification on CPA/SPA and AAQ data: During the 11th EAC meeting, the committee advised CECB to clarify the CEPI Score of Raigarh and provid e its comments whether the said district falls under the Severely or Critically Polluted Area. The Committee al so asked the SPCB to also provide the AAQ data for the last one ye ar. Accordingly, it has been informed that CECB has sub mitted their written response directly to MoEF&CC on the same.

3.3.3. Deliberations by the committee in previous meetings

Date of EAC 1 :09/05/2024

Deliberations of EAC 1 :

11.8.2: During the meeting, the Committee is of the view that although the PP provided status of information sought by EAC in the 9th EAC Meeting but during this meeting the PP and NABET Accredited consultant shall focus on mainly two issues viz., (i) Procedure followed while conducting Public Consultation and (ii) Carrying Capacity study as the other information submitted by the PP is premature at this stage and also a site visit is yet to be conducted by the sub-committee. Therefore, during this meeting deliberation is to be done on the following two issues.

Issue 1: Procedure followed while conducting Public Consultation:

The Committee noted that, Hon'ble NGT in its Judgement dt. 15.01.2024 asked the Ministry to review the proposal from the stage of conducting Public consultation afresh. Therefore, the Committee in the previous meeting asked that "*As per EIA Notification 2006 (as amended) the concerned State Pollution Control Board is responsible for conducting a public hearing and also for seeking written responses from the concerned persons having a stake in the environmental aspects of the project or activity. Therefore, the Member Secretary, Chhattisgarh State Pollution Control Board shall provide details of the prescribed procedure followed for the Public Hearing; was this procedure was fully followed as per the rules; the number of people who participated; details of written submissions received; details of issues/ concerns raised by the attendees both orally and in writing. The Committee is also of the view that any comments received from the applicants who have filed the case before Hon'ble NGT may also be provided. The Committee is of the view that to further deliberate on this issue, the representatives of SPCB shall be invited to the EAC meeting.*"

During the meeting, it was informed to the Committee that Ministry vide email dt. 02nd May 2024, requested Member Secretary, State Pollution Control Board, to take necessary action as per the above recommendation of EAC and also to attend the 11th EAC meeting scheduled for 09th May 2024.

The PP informed that Member Secretary, CECB vide letter dated 29.04.2024 provided details of the prescribed procedure followed and mentioned that procedure was followed as per EIA Notification 2006. It was also informed to the Committee that Sh. R.K Sharma (SE, CECB) and Sh. Jhon Lakda (ACE, CECB) representatives from SPCB has joined the meeting through virtual mode.

The committee interacted with the above representatives of CECB on the procedure followed during the public consultation. The representative of CECB informed that Member Secretary, Chhattisgarh Environment Conservation Board (CECB) vide letter dated 29.04.2024 provided a clarification regarding the public hearing and as per the clarification provided by MS, CECB, the public hearing was conducted by CECB as per the procedures laid down in EIA notification 2006 (as amended). All the provisions of EIA Notification, 2006 has been complied with. The representative of CECB also confirmed the same during the meeting. The Committee observed that in the letter dated 29.04.2024 following is mentioned:

The Committee asked whether the opportunity was given to local people to record their observation in this regard representative of CECB informed that Additional District Magistrate, Raigarh announced many times and local people were asked to come forward and respond and record their objections and consent if any regarding project. The Committee also observed that the same was also recorded in the letter dated 29.04.2024 at Sl. No 12. It was also informed to the Committee that 59 persons present at the venue responded orally and 2 persons submitted the written response.

The Committee also asked whether the four petitioners who have filed the case before the Hon'ble NGT recorded their oral and written submission during the PH or earlier submitted any responses. In this regard, representative of CECB informed that representation of two of the petitioners were received in 2018 and 2019 respectively. Further, they have submitted health and environment reports prepared by some individuals on their own and not endorsed by any government agency.

The Committee observed that in letter dated 02.04.2018 one of the petitioner requested for cancellation of the Public Hearing on various grounds viz. i) Gram Sabha's NOC for Forest Rights Act, ii) no project can be established in the Fifth Schedule area without the permission of the Gram Sabha, this public hearing being organized in disregard of the Constitution and the PESA Act., iii) Forests and agricultural land will be destroyed, iv) mining should not be done in this area without carrying capacity study and cumulative impact assessment, v) issues related to acquisition of land including tribal land, iv) pendency of forest right claims, vii) environmental condition of this area should be examined etc. The Committee observed that other petitioner raised issue regarding violation of Panchayat Raj Adhiniyam via written submission that gramsabha has not been conducted in all the affected villages, hence request to cancel the public hearing.

The Committee is of the view that a health and environment reports mentioned by CECB shall also be considered/referred while conducting health study and carrying capacity study as already suggested by EAC in its previous meeting.

It was also informed to the Committee that Maharashtra State Power Generation Company Limited has already obtained Stage –II FC on 27.01.2023 and PP vide email dated 03.05.2024 also submitted the letter dated 02/12/2019 issued by the Collector, Raigrah District thereby forwarding the NOCs obtained from Gram Sabha.

The Committee is of the view that CECB shall provide their comments on this issue and any other additional information in writing. Further, the Subcommittee shall visit the site and submit its report for further deliberation on the issue.

Issue 2: Carrying Capacity Study:

The Committee observed that the Hon'ble NGT in its Judgement dated 15.01.2024 at para 218 inter alia mentioned that "…*We find that carrying capacity study was to be conducted by CPCB and CECB and data was required to be compiled by the said authorities. There is nothing on record to show that any such study in respect of Tamnar Block which included questioned area was conducted as per direction in Shivpal Bhagat (supra). Therefore, carrying capacity study by authority which was required to undertake the same, has not been conducted and this aspect has not been taken care by the Competent Authority in granting prior EC."*

The Committee asked the representative of SPCB about the same and it was informed that SPCB has engaged IIT Bhilai and IIT Bombay to conduct the carrying capacity study of Tamnar Block and Gharghoda Block of Raigarh District of Chhattisgarh. The committee asked whether this mine is also included in the same. In this regard, it was informed to the committee that the said study was done for existing coal mines, thermal power plants, sponge iron plants, etc. and this mine was not included in the same. The Committee is therefore of the view, that SPCB shall request IIT Bhilai and IIT Bombay, to conduct carrying capacity study which should include not only the present operating mines and industries but also the proposed industries and mines coming up in the area, along with the mitigative measures which should be taken for the same. Also, SPCB is required to clarify the CEPI Score of Raigarh and provide its comments whether the said district fall under the Severely or Critically Polluted Area. It was also informed to the Committee that one CAAQMS was established in the said region. The Committee therefore asked the SPCB to also provide the AAQ data for the last one year.

The committee suggested that independent studies submitted by applicants to SPCB may also be forwarded to an IIT or reputed government institution for conducting additional carrying capacity and cumulative impact assessment study by also taking into account the impact of the proposed project on the local environment. Mitigation measures shall also be suggested in the additional carrying capacity study by an IIT/ reputed Government institute.

In addition to above, the Chairman EAC desired that a sub-committee shall visit the project site and submit its report. It was informed to the Chairman that a site visit has already planned during 17-19th May, 2024 however, the office order is yet to be issued. The Chairman EAC is of the view that Ministry shall expedite the same.

Based on the discussion held and documents submitted the Committee ***deferred*** the proposal for want of following:

Date of EAC 2 :21/03/2024

Deliberations of EAC 2 :

9.3: Committee after deliberations noted the following:

During the meeting the PP made a presentation and submitted the following:

- MoC, GoI has allotted the Gare-Pelma Sector-II Coal Mine to Mahagenco on 24.03.2015.
- Mahagenco signed the Allotment Agreement on 30.03.2015 and subsequently signed the Amendment on 31.08.2015.
- Coal mining was proposed in a total lease area of 2583.48 hectares falling in various villages (14 Nos.) of Tehsil Gharghoda, District Raigarh (State of Chhattisgarh).
- The ToR was granted on 8/8/2016.
- Public hearing for the project of 23.60 MTPA capacity in an area of 2583.48 ha was conducted on 27th September 2019 at Village-Dolesara, District-Raigarh, Chhattisgarh.
- Mahagenco submitted proposal no. IA/CG/CMIN/52019/2016 seeking EC under EIA Notification dated 14.09.2006 (hereinafter referred to as 'EIA 2006') for mining of coal to MoEF&CC.
- The first time, the Project was considered & discussed in the 51st EAC meeting on 05.12.2019 and the proposal was returned to PP with few observations. Again, the Proposal was considered in the 2nd EAC meeting held on 28-29th Sep'2020 wherein the proposal was recommended for grant of Environmental Clearance. MoEF&CC granted the Environmental Clearance on 11.07.2022.
- MoEF&CC granted FC –I for diversion of 214.869 ha. Forest land on 02-06- 2022; FC stage- II has also been granted on 27.01.2023.
- CTE applied on 19.01.2023 to CECB and it is in the final stage for final approval.
- Mine lease application submitted on 08.12.2015. Mahagenco has requested to MRD (Mineral Resource Department), Gov. of Chhattisgarh for the execution of the mine lease on 06.02.2023 and 02.08.2023. and as reported by PP it is in the advanced stage of approval.
- Environment Clearance challenged by four appellants in National Green Tribunal (NGT), Bhopal. On 15th January 2024, Hon'ble NGT quashed the Environment Clearance on concerns about Public Hearing, Carrying Capacity study, Hydrology study and ICMR report.
- The Committee noted that PP has filed a Civil Appeal before the Hon'ble Supreme Court. PP reported that they have requested to withdraw the Civil Appeal filed before the Supreme Court and the Hon'ble Supreme Court vide Order dated 15.03.2024, disposed of the case as withdrawn by keeping the other remedies of the Appellant (Mahagenco) open in accordance with the law.

i) Public Consultation:

- MAHAGENCO submitted the draft EIA report to the State Pollution Control Board

i.e. Chhattisgarh Environment Conservation Board (CECB) on 01.08.2019 for intention to conduct the Public Hearing.

- Prior notice was published in local newspapers (Dainik Bhaskar) and English newspaper (Hindustan Times) on 25.08.2019 for awareness of local stakeholders with the date, and venue of the Public hearing.

- Public hearing conducted on 27.09.2019 at Government Primary School Ground, Dolesara, Tehsil Tamnar, District Raigarh in close proximity to the project as per EIA notification, 2006, completing all necessary observations/preparations.

- Public hearing was conducted under the chairmanship of the Additional District Magistrate Mr. R. A. Kuruwanshi and R.O, CECB- R.K. Sharma as its Member Secretary.

- PH for the said project was successfully conducted observing all necessary requisites of it in the presence of the Additional Superintendent of Police and other voluntary organisations.

- As per the Public hearing proceedings, around 1000 People assembled to whom ADM requested to render their views. The process concluded smoothly, and 58 persons expressed their views/suggestions regarding the project and even signed in the attendance register kept for the purpose. The majority of the local participants welcomed the company and supported the project.

- Equal, fair and adequate opportunity with time was given to the participant to express their views

- PH was done with all due processes envisaged under EIA notification-2006 as per the Affidavit filed by CECB during the NGT proceedings.

- All objections/views raised in PH have been addressed in Final EIA.

ii) ICMR Report:

- ICMR Report was prepared for the Tamnar region and submitted to MoEF & CC. Some additional conditions already covered by MoEF & CC in the EC were granted to Mahagenco on 11.07.2022.

- It is requested to kindly share the ICMR Report and its findings with Mahagenco. Accordingly, Mahagenco will comply with the recommendations of the ICMR Report.

Observation of EAC: *The Committee is of the view that PP shall get the study done from AIIMS Chhattisgarh or reputed Govt. specialised institute for anticipated impact of the project on the health of people living in the surrounding area; suggest remedial measures and the institute should also offer comments on the ICMR report particularly with references in this study on the predicted impact of the project on the health of people living in the surrounding area.*

iii) Hydrological study:

- The study was conducted by NABET accredited consultant Min-Mec as per the direction of EAC .

- Kelo river will not be diverted due to the prevailing topography, shape of the block and presence of other coal blocks all around. Further, a thick greenbelt is proposed for development around the kelo river. • Initially a safety barrier of 17 m to 45 m was proposed. However, while granting the environment clearance, EAC stipulated the condition to observe a barrier of 100 meter from the HFL of the river.

- A separate study on hydrology from IIT (ISM) Dhanbad has been additionally proposed to substantiate the findings.

iv) Carrying Capacity Study:

- We understand that a study has been facilitated by CECB under collaboration with IIT Bhillai & IIT Mumbai.

- It is requested to share the report and the findings and accordingly, we shall comply with the conditions as guided by EAC/MoEFCC.

i) There is a change in consultant who is required to re-validate the EIA/EMP report. Therefore, the Committee is of the view that fresh baseline data needs to be collected. While revalidating the EIA/EMP if any additional study is required to be done then the same needs to be completed. Consultant should ensure that EIA/EMP should be complete in all respect considering the OMs issues by MoEF&CC from time to time.

ii) Plot the wind rose diagram using the typical meteorological year (TMY) data for the period considered for the study.

iii) The monitoring units shall be deployed in the field based on the coverage area ratio and direction of the wind.

iv) Mathematical model shall be developed for local site rather than using the standard model available in software for both air & water quality modeling.

v) Support generation of renewable/purchase power generated from the renewable sources to the tune of at least 25% of their total power generating capacity.

vi) To align themselves to one/few of the Sustainable Development Goals (SDG) and start working on the mission of net zero by 2050.

vii) Plan for protection of the ecology of the surrounding area and post-mining ecological restoration plan to be prepared by reputed Institute/ University.

viii) Detailed time bound planting plan with native species. PP should submit the detailed plan in tabular format (year-wise for life of mine) for afforestation and green belt development in and around the mining lease. The PP should submit the number of saplings to be planted, area to be covered under afforestation & green belt, location of plantation, target for survival rate and budget earmarked for the afforestation & green belt development. In addition to this PP should show on a surface plan (5-year interval for life of mine) of suitable scale the area to be covered under afforestation & green belt clearly mentioning the latitude and longitude of the area to be covered during each 5 years. The capital and recurring expenditure to be incurred needs to be submitted. Plantation plan should be prepared in such a way that 80% of the plantation to be carried out in first 5 years and for the remaining years the proposal for gap filling. The seedling of height not less than 2 meters to be selected and accordingly

cost of plantation needs to be decided. In addition to this, plantation in the safety zone at lease boundary the plantation should be planned in such a way that it should be completed within 2 years only.

ix) PP should submit the quantity of surface or ground water to be used for this project. The complete water balance cycle need to be submitted. In addition to this PP should submit a detailed plan for rain water harvesting measures to be taken. The PP should submit the year wise target for reduction in consumption of the ground/surface water by developing alternative source of water through rain water harvesting measures. The capital and recurring expenditure to be incurred needs to be submitted.

x) While preparing the Hydrogeological Study it shall be ensured that guidelines/OMs issued by MoEF&CC are followed.

xi) PP should mention the number and designation of person to be engaged for implementation of environmental management plan (EMP). The capital and recurring expenditure to be incurred needs to be submitted.

xii) A site visits by EAC team along with representatives of SPCB, MoEFCC Regional Office and other experts will be done.

3.3.4. Deliberations by the EAC in current meetings

PP and the NABET Accredited Consultant made a detailed presentation. The Committee noted that the proposal of Gare Palma Sector II Coal Mine Project of Open Cast 22.0 MTPA + Underground 1.6 MTPA Capacity in the mine lease area of 2583.487 Ha of M/s Maharashtra State Power Generation Company Limited was considered in 8th, 9th & 11th EAC, held on 20.03.2024, 21.03.2024 and 09.05.2024 respectively. In 11th EAC, the Committee was of the view to further deliberate on this proposal, the representatives of SPCB, IIT – IIS Dhanbad and Entrepreneurship Development Institute of India (EDII) Ahmedabad shall be invited to the EAC meeting to give their opinions on the ground reality as they were present when the studies were being conducted. Accordingly, PP submitted the reply (i.e. status of action taken on the information sought by the EAC) and the proposal is now placed in 13th EAC meeting held on 01.07.2024 & 02.07.2024.

The Committee further noted that MAHAGENCO has submitted Form 1 application and a pre-feasibility report for obtaining Terms of Reference (ToR) from the Expert Appraisal Committee (EAC). The project proposal was considered and appraised by the EAC (Thermal and Coal Mining Projects) in its 58th meeting held on 23rd - 24th June 2016 wherein the Committee recommended the proposal for the grant of ToR. The ToR was issued vide letter No. J-11015/72/2016-IA. II (M) dated: 8th August 2016. The validity of ToR was extended vide letter dated 5.08.2019. After the grant of ToR, PP conducted a Public Hearing on 27th September 2019. The PP then submitted the Final EIA/EMP to MoEF&CC on 23.11.2019. The proposal was considered by EAC in its meeting held during 5.12.2019 and 28-29 September 2020 wherein the EAC recommended the proposal grant of EC. EC was issued on 11.07.2022.

An Appeal under Section 16(h) of the National Green Tribunal Act, 2010 has come up against Environmental Clearance (EC) dated 11.07.2022 granted by MoEF&CC, GoI. Considering the discussions, Hon'ble NGT finds that prior EC granted in the case in hand is vitiated in law on account of observations made, particularly, with regard to public consultation, non-consideration of ICMR report, Hydrological study and carrying capacity. The Hon'ble NGT vide Judgment dated 15.01.2024 mentioned that "*EC dated 11.07.2022 granted to respondent 4 (MAHAGENCO) is quashed. MoEF&CC may re-examine the matter from the stage of conducting public consultation afresh and in case, other appropriate study material is placed on record by proponent, the same may be considered/appraised and a fresh order may be passed by MoEF&CC with regard to prior EC in accordance with law and existing state of environment and ecology.* "

In accordance with the directives of the Hon'ble NGT, the Project Proponent (MAHAGENCO) has, through a letter dated 24.02.2024, requested the Expert Appraisal Committee - Coal Mining to consider their proposal in the upcoming EAC meeting. Ministry to comply with direction of Hon'ble NGT placed the matter before EAC as an additional agenda in its 8th its meeting held on 28.02.2024 wherein the directed that PP to first forward/circulate all the relevant documents including Hon'ble NGT Order dated

15/01/2024, to all the Members of the Committee. Henceforth, the matter was deferred. As desired by the Committee the PP, on 17.03.2024 circulated the relevant documents pertaining to the NGT judgement to the EAC and MoEF&CC. Further, the Ministry vide email dated 19/03/2024 circulated the requisite documents including NGT Judgment dated 15.01.2024 to the EAC. The PP vide proposal number IA/CG/CMIN/466451/2024 also applied on the Parivesh Portal and the proposal was placed in the 9th EAC meeting held on 21/03/2024 wherein the Committee deliberated on the proposal including the issue related to Public Consultation, ICMR Report, Hydrogeological Study, and Carrying Capacity Study. The Committee deferred the proposal for want of additional information. PP submit the status of the compliance as proposal was again placed in 11th EAC meeting held on 8-9 May, 2024 wherein the Committee deliberated mainly on i) Procedure followed while conducting Public Consultation and (ii) Carrying Capacity study as the other information submitted by the PP is premature at this stage and also a site visit is yet to be conducted by the sub-committee. The Committee after detailed deliberation on these issues deferred the proposal for want of i) additional information already sought by the EAC, including additional carrying capacity study as mentioned above, ii) Site visit report by the EAC Sub-Committee, and iii) CECB shall provide their comments and any other additional information in writing. PP provided the requisite information and proposal is now placed in 13th EAC meeting held during 1-2 July, 2024. The Committee deliberated on the proposal including the ToR compliance, revised EIA/EMP report, reply submitted by the PP for information already sought, and site visit report. The Committee also interacted with the representative of CECB, IIT(ISM) Dhanbad, CIMFER (Dhanbad), and EDII, Ahmedabad. Based on the discussion held and document submitted the Committee is of the following view:

1) MoC, GoI has allotted the Gare-Pelma Sector-II Coal Mine to Mahagenco on 24.03.2015. Mahagenco signed the Allotment Agreement on 30.03.2015 and subsequently signed the Amendment on 31.08.2015. The proposed production rated capacity of the mines is 23.60 MTPA (22.0 MTPA by OC & 1.60 MTPA by UG). Accordingly, the mining plan has been prepared and duly approved for the rated capacity and peak capacity based on the office memorandum F.No.34011/28/2019-CPAM, Ministry of Coal, GOI dated 29.05.2020 and approved by Ministry of Coal, Govt. of India vide letter No. F. No. 34011/16/2016-CPAM dated 12.08.2016. Mining lease application submitted on 08.12.2015.
2) Production of coal with production capacity 23.60 MTPA (22.0 MTPA by OC & 1.60 MTPA by UG). Installation of coal handling plant - A coal handling plant with design capacity of 23.6 million tonnes per annum will be established. Coal is to be produced through surface miners from opencast and through continuous miners from underground, which will not require additional crushing in the coal handling plant (CHP). Coal produced from opencast will be transported by 100/150T dumpers directly to the ground bunker of 70000 tonne capacity via unloading platform, reclaim conveyor and transfer point and coal from underground will be directly fed to the ground bunker through the conveyor emanating from the incline. Total geological reserve reported in the mine lease area is 1059.29 MT with 781.78 MT mineable reserves. Out of total mineable reserve of 781.78 MT, 655.15 MT are available for extraction. Percent of extraction is 83.8%. The Coal linkage of the project is proposed for captive use for various thermal power plants of Mahagenco namely Chandrapur Thermal Power Station Unit 8 & Unit 9 (1000 MW), Koradi Thermal Power Station Unit 8, Unit 9and Unit 10 (1980 MW), Parli Thermal Power Station Unit 8 (250 MW). The Life of mine is total 77 years (Life of OC mine – 29 years and UG mine - 66 years starting from 12th year onwards).
3) The lease area is 2583.48 Ha (Non-Forest Land: 2368.618 Ha & **Forest Land**: 214.869 Ha). PP submitted that FC Stage-I granted vide File No. 8-06/2022-FC dated 02.06.2022 and subsequently, FC Stage-II granted on 27.01.2023. The Committee observed that the Silot Reserved Forest is located at around 0.1 km (N) and Tolge East Resrved Forest is located at about 2.7 km (E), Barkachhar Reserved Forest – 7.5 km (S) form the project site. The Committee is of the view as the forest is at the distances of 100 meters PP shall create a natural wind barrier between the lease boundary and forest area by developing green belt. Impact on the forest land shall be studies/monitored at regular interval and report shall be submitted to RO. The Committee also observed that there is no grazing land involved in the project.
4) PP submitted that there is no wild life sanctuary, national park or eco sensitive zone within 10 Km radius of the mine lease area. Wildlife conservation plan was prepared by Learn nature consultants pvt Ltd., Raipur. Wildlife conservation plan submitted by PP on 14.11.2019. WLCP has been approved by PCCF (WL), Raipur, Chhattisgarh dated 20.01.2021 with Rs. 344.40 Lakhs of budgetary provision. The Committee is of the view that PP shall deposit the amount to the concerned authority. Although based on the survey conducted, the project site does not have any species which fall under the Schedule I of The Indian Wildlife (Protection) Act, 1972 or under threatened category of The IUCN Red List of Threatened Species. But within the 10 km radius of project site (in Reserve forest patches) three Schedule-I species were recorded as per the Forest records. The Committees is of the view although there are no threatened species but PP shall give training/conduct awareness program for its employee/workers to protect the wildlife if any found in the project area.
5) The Committee observed that the project is not located in CPA/SPA and the same is also confirmed from Carrying Capacity Study report submitted by CECB.
6) The Committee observed that earlier, baseline data collection was considered Post Monsoon Season (Oct to Dec 2016)

and (Nov 2019 to Jan 2020). Again for re-validation of EIA report baseline data (25th March to 15th June 2024) has been collected. The Committee is of the view the project was to be reviewed from the stage of public consultation but baseline data was asked to collect to get the recent environment scenario. The Committee observed that as compared to 2016 level there is some increase air pollutants but as per the results of the monitored data indicate that the ambient air quality of the region in general is in conformity with the National Ambient Air Quality Standards with present level of activities. Ambient Air Quality Monitoring reveals that; the minimum and maximum concentrations of PM10 and PM2.5 for all the 25 AAQM stations were found between 37.50 to 82.70 µg/m3 and 18.50 to 57.60 µg/m3 respectively. The minimum and maximum value concentrations of SO2 for all the 25 AAQM stations were found between 4.40 µg/m3 to 25.40 µg/m3. The minimum and maximum value concentrations of NOX for all the 25 AAQM stations were found between 7.80 µg/m3 to 38.90 µg/m3. The concentrations of CO for all the 25 AAQM stations were found between 0.30 to 1.08 mg/m3. The Committee also observed that more number monitoring stations were installed as compared to 2016 when initial baseline study was done. The Committee observed that as per the EIA the noise levels recorded at all locations were within the limits of ambient noise as per Noise Regulation (Pollution & Control) Rules, 2000. The maximum & minimum Leq values for day and night time was observed to be 53.21 and 30.88 dB (A) respectively, which can be attributed to local prevailing environment (Mining, industrial, Railway siding and Highway). However, the recorded noise levels were found within the limits of Industrial Noise (75 dB (A)). PP submitted the analysis of the 22 nos. of Ground Water and 22 nos. of Surface Water samples in EIA and it has reported that the GW samples are falling within the drinking water standards and surface water is indicating category A of CPCB water quality criteria. As per the EIA the soil samples are predominantly Clay loam type.

The Committee observed that PP has provided the impact during the construction and operational phase in the EIA. During the construction activities like establishment of workshop, service buildings, development of roads, etc., will increase the noise levels and dust pollution. PP also provide the mitigative measures for dust, noise and water which inter-alia include water spraying, speed limit, plantation, PUC for vehicles, covered transportation, Construction activities will be carried out only during day time, Noise generating equipment will be kept away from the residential buildings, all the machineries which will generate noise will be covered with the tin sheets, domestic water will be treated in Septic tank and Soak pit, waste water generated during construction activities will be diverted to settling tank for suspended solids deposition and the same will be used for greenbelt. The Committee is of the view that during the construction phase there are possibilities of generation of plastic waste and PP shall provide the provision for collection of the same and take steps for its minimization. PP shall ensure the construction waste if any shall also be utilised/handle properly as per rule. During the operation phase, PP reported the impact on Air Quality, Water Quality & Hydro-geology, Noise, Land Use, Flora & Fauna and Socio-Economic Environment. PP has also calculated the AQI (sub-index values) for various pollutants. PP also provided the cumulative impact of all the pollutants in Chapter 4 of EIA. The Committee observed that it is reported that as per the analytical reports of the project site and the surrounding areas, the ambient air quality is found well within the NAAQS limits except the incremental GLC of PM2.5 which is slightly higher than the limit. Environment Management Plan will be appropriately taken up to mitigate the air pollution. Further, the Air Quality Index for study area falls under good, satisfactory, and moderate categorization as per the data obtained during baseline studies. The AQI index of the area is also found satisfactory. The health impact due to this AQI is very less and it may only cause discomfort to sensitive people. The Committee observed that mitigative measures suggested includes i) Wet drilling method will be employed while carrying out the mining to decrease the dust generation, ii) The underground workings of the mine will be well ventilated by adequate ventilation arrangements. The requirements and standards specified in this regard by Director General of Mines Safety (DGMS) would be adhered, iii) Effective water spraying arrangements will be done in underground working places, at haulage junctions, ore loading bunkers at pithead on surface, at main haul roads within the mine, approach roads to the mine and other transfer points, iv) Enclosures at ore transfer points and watering of roads at regular intervals, v) Transportation of materials (timber, roof bolts, grouts/resins, spare parts, cables, lubricants, ventilation stopping materials, etc) from the surface mine to underground working place, direct rope haulage system and endless haulage system will be used, vi) Water sprinkling will be carried out by both fixed and mobile sprinklers on internal transport road, transfer points, critical areas, loading and unloading points, vii) Proper periodic maintenance of machinery and vehicles, viii) The run-off during the monsoon will be collected through the network of drainage system and treated in settling pond and the same will be utilized for dust suppression system, ix) Plantation will be done within the mine premises, along the boundary and also along ore transport route. In order to minimize the adverse impacts of the proposed mine on the local villages, greenbelt development will be carried out using local species around ore loading and unloading points and along the transport road, x) When the roads are ready, it is proposed to plant avenue trees on both sides of roads. Only the native species that are well adapted to the local agro-climatic conditions will be chosen for plantations (avenue trees) along the roadsides and xi) Around 2500 saplings per annum in 1 Ha in the vacant areas.

The Committee noted that in the initial 5 years, the production level proposed is 9.5 MTPA as against 22.0 MTPA which is 43% of the total production and during these 5 years PP shall take massive concurrent dense three-tier plantation along the lease boundary and outside the lease area so that by the time production level reaches to proposed production capacity sufficient plantation/green belt has already been developed. Further from the 6th year onwards, the backfilling shall be started and internal dumping should be done so that reclamation of the backfilled area starts at an early stage. The Committee observed that road transportation is proposed for an initial 2 years is 1.55 MTPA.

The Committee therefore interacted with the representatives of SPCB about the same and asked whether this mine is included in the Carrying Capacity conducted by SPCB for Tamnar Block through IIT Bhilai and IIT Bombay. The representatives of SPCB informed that the study was done for already existing mines and power and iron plants and the proposed mine was not included in it. Therefore, the Committee suggested to SPCB to request IIT or some other reputed government institute to conduct a carrying capacity study, which should include not only the present operating mines and industries but also the proposed industries and mines coming up in the area, along with mitigative measures which should be taken for the same. The Committee observed that "Carrying Capacity and cumulative impact assessment study with its mitigation measures by also taking into account the impact of the proposed project on the local environment in Tamnar block in District Raigarh, Chhattisgarh" undertaken by Chhattisgarh Environment Conservation Board (CECB), Raipur was carried out by the IIT-Patna. The Committee also interacted with the Dr. Amit Kumar Verma, expert from IIT-Patna who briefed the Committee about the study report. The Committee observed it has mentioned in the report that in April 2023, a carrying capacity study was carried out by IIT Bhilai and IIT Bombay in Raigarh and Gharghoda Blocks of Raigarh District, Chhattisgarh State, in response to a request and invitation from the Chhattisgarh Environment Conservation Board (CECB). IIT-Patna prepared carrying capacity report comprising the region along the Gare Palma and assesses the impact of operational mines and the upcoming project in the surrounding area of the Gare Palma region of Tamnar block. The study consisted of the air quality index based on the regular time air monitoring, water quality of the region, water quality index, soil quality of the region and the ecological impact due to the operational and proposed mines. IIT-Patna team also reviewed carrying capacity report, prepared by IIT-Bhilai and Bombay along with supplementary data study report on socio-economic status, hydrology data, ecology conservation plan and post mining ecological restoration plan submitted by Entrepreneurship Development Institute of India (EDII), Ahmedabad and IIT (ISM), Dhanbad.

The Committee observed that carrying capacity report concluded that in Tamnar block, the concentration of PM, SO_2, and NOx falls comfortably within the acceptable limits. Nonetheless, the RSPM levels in the region are close to the highest allowable limit for an industrial zone. Particulate matter could potentially hit its peak level in the future because of build-up. Hence, more steps need to be taken from the environmental management plan to improve climate change and decrease industrial pollution. Further, in the recommendation it has mentioned that The Carrying Capacity assessment conducted in Tamnar of Raigarh District, Chhattisgarh State, showed that the region still has capacity for PM, $S0_2$, NO_X. Yet, the Tammar block is getting closer to exceeding the maximum pollution concentration limit for Particulate Matter because of poor road conditions and higher levels of industrial activity like coal and ash transportation. Additionally, the following points have been observed that could potentially be incorporated into the action plan.

During the meeting the committee discussed the report with Dr. Amit Kumar Verma and asked about the impact on human health. He informed that as per the report the Air Quality Index for the study area is classified as good, satisfactory, and moderate based on data collected during baseline studies. As a result of implementing the project and the activity of cluster mine, the AQI index in some locations will shift from satisfactory to moderate. The health effects of this AQI are minor and may only result in discomfort for individuals who are sensitive.

8) The Committee observed that Hon'ble NGT in its Judgment dated 15.01.2024 inter-alia made certain observation about the Hydrogeological Report, impact of mined drainage & diversion of nallas and study of flood level of Kelo River and impact if any. The Committee previously was of the view that the Hydrogeological study was done by NABET Accredited consultant, but Hon'ble NGT observed some shortcomings in the same, particularly concerning high flood levels and mentioned in its judgement that **"Moreover, high flood level of the river has been taken for a very small period of 1996-97 to 2002-03, though it should be of the period of last 50 to 100 years."** asked the PP to get the revised study done from IIT (ISM) Dhanbad and the concerned institute shall ensure that observation of Hon'ble NGT and applicants shall be addressed in the proposed study report. As desired by the EAC, the PP got the Hydrology Study and Embankment Design done from IIT (ISM) Dhanbad. During the meeting the Committee also interacted with Dr. Sunil Kumar Gupta who briefed the EAC about the report and recommendations.

The Committee observed, as per the report of IIT – ISM Dhanbad, observed that there are two major Nalas i.e. Nala A situated in West and Karnar Nala B in the East side of the Kelo river. The report suggests that, as these Nallah fall within the mining lease area and will be impacted by the mining activities, it is proposed to divert these Nala along the periphery of the lease area back into the Kelo river to minimise the impact and facilitate uninterrupted activities in the study area. The report suggests that it is proposed to construct a garland drain along the northern boundary line (within the block area) to join the same into Kelo river located in its east side. The diverted nala section should be lined and the banks should be fully protected by stone pitching on either side. Also, Karnar Nala is a non-perennial drain, with limited discharge during the monsoon period. The flow regime will be subcritical, which means it will not require any

installation of energy dissipation structures within the channel due to subcritical flow in the diverted channel. According to the report, mining activities in the Gare II coal block are not expected to directly impact the path of the Kelo River as the course of river will be maintained to its natural course by restricting the mining operation at least 100 m away from both sides of the bank as per the guidelines (DGMS).

The Committee observed that, as per report the increased siltation in the Kelo River due to material handling activities within the mine lease is a real possibility. Studies carried out by CWPRI in the Mahanadi basin have given a value of annual average sedimentation load as 466 tonnes/sq.km for the Mahanadi basin. The calculations done for the various land uses of the mine clearly indicates that the siltation from the mine lies well below the average limits given for this Basin. The Committee is of the view that the measures suggested in the report to mitigate the siltation on the Kelo River and its catchment must be followed by the PP which includes i) The mining activities will be restricted by maintaining a minimum distance of 100 m between the riverbank and mine pit boundary, avoiding disturbance to the riverbed and natural soil and aquifer characteristics, ii) The garland drains shall be provided for collection of surface runoff at the peripheral boundary of embankment which will also arrest the sediment load, by settling, and treating the water before releasing it back into the Kelo River. iii) The seepage water from the Kelo River to the mine pit will be collected into the mine pit and pumped to the surface and after proper treatment the same will be released for the possible secondary utilization by the local communities. iv) Implementing strict material handling and sediment control measures, and regularly monitoring the river's flow, water quality, and sedimentation levels. v) By implementing these mitigation measures and continuously monitoring the Kelo River's health, the potential impacts of the mining activities can be minimized, ensuring the river's long-term sustainability and its ability to support the dependent ecosystems and communities.

With regard to observation of Hon'ble NGT that "*Siltation in the river will also impact its flow and disturb its path*", the Committee observed that, IIT – ISM Dhanbad proposed that the mining activities be restricted by maintaining a minimum distance of 100 m between the riverbank and mine pit boundary, avoiding disturbance to the riverbed and natural soil and aquifer characteristics. Report also suggested implementing strict material handling and sediment control measures, and regularly monitoring the river's flow, water quality, and sedimentation levels. In addition to this, the report suggested that the garland drains shall be provided for collection of surface runoff at the peripheral boundary of embankment which will also arrest the sediment load, by settling, and treating the water before releasing it back into the Kelo River.

The Committee also noted that report provides the impact of seepage of Kelo River into the mine working area wherein it has mentioned that *"Detailed analysis of seepage and mine water generated, it is evident that the anticipated amount of water to be dewatered from the mine on a daily basis comes out to be very less as compared to the mean daily flow of Kelo River, which is going to remain less than a maximum value of 0.12 % in the near future (till the year 2028-29). The detailed estimate on the mine water seepage and dewatering is given in Table 15, This shows that the impact of seepage and mine dewatering on the Kelo River flow will be negligible.*

The Committee is observed in the report submitted by IIT – IIS (Dhanbad) that, the mean discharge of the Kelo river for the period between 1958 to 2023 is 15,50,880 KLD. Over analysis of the impact of mining on the flow of Kelo river dictated that the total water requirement for the mining related activities is 2785 KLD. Out of which 1785 KLD is fresh water and 1000 KLD will be fulfilled from recycled water. Further, out of 1785 KLD water, 1454 KLD water will be met from groundwater with due permission of CGWA. The remaining 331 KLD of freshwater will be taken from Kelo river which is merely **0.021 %** of the mean daily discharge of Kelo river. *This signifies very less impact on the flow of Kelo river*. Further, IIT ISM team shown "anticipated amount of water to be dewatered from the mine, which is going to remain less than a maximum value of 0.12 % in the near future (till the year 2028-29)" which shows that the impact of seepage and mine dewatering on the Kelo River flow will be negligible.

The Committee observed that w.r.t observation of Hon'ble NGT for making arrangement for embankment all along Eastern and Western bank of Kelo river, affecting natural flood plain zone of the river. The PP submitted that in the report submitted by IIT – ISM that the team proposed embankment along the eastern and western bank of Kelo river. DGMS mandated only 15 meters from either bank of a river, however IIT (ISM) team also proposed that a minimum distance of 100 m between the river and the mine pit boundary shall always be maintained at different sections of the river. In the said report IIT ISM team has proposed a detailed design for the embankment along the Kelo river and natural water flow. It also has been recommended that the height of the embankment shall vary from 2m to 9m on the right bank and from 4m to 9m on the left bank. It is further recommended to strengthen the embankment on the riverside by placing large boulders in wire net bags. The embankment will also be stabilised by road rollers and vibrators followed by plantation of grass and bushes. The HDPE geomembrane lining is to be provided in the embankment. The apron provided at the base of the embankment will help in considerably reducing the seepage through the base of the embankment. In addition, the central core layer will have interlocking arrangement at the base to avoid seepage from the base.

The Committee observed that w.r.t to observation of Hon'ble NGT i.e "High flood level of the river has

been taken for a very small period of 1996-97 to 2002 03, though it should be of the period of last 50 or 100 years". In this regard PP submitted that Long term Rainfall data of the gauge station in Raigarh, and the discharge values (inflow to the river from the reservoir) collected and used from 1958 to 2006 (48 years) to develop a rainfall-runoff model. EE, Kelo project Yojna also provide a letter for the same. Further, due to unavailability of discharge value from year 2007 to 2023, the total runoff volume was further used to predict the discharge values. Hence the runoff for this period was determined by developing a statistical rainfall-runoff model from annual rainfall data which was available from 1958 to 2023.

In addition to the observations of NGT, the Committee also deliberated on the groundwater in the said area. The report of IIT – ISM Dhanbad states, that to study the impact of mining on the water quality, the groundwater samples were collected from 14 nearby villages of GARE-PALMA II, Coal Block mining region and also from u/s and d/s of Kelo river. Different physico-chemical parameters were assessed. These parameters were then integrated to develop a water quality index (WQI), through which the drinking water suitability of groundwater is determined. The analysis of WQI values of the groundwater samples shows that all the samples fall in the category of excellent to Good, which means that groundwater of the region has not experienced any significant deterioration on account of mining activities. The pH of most of the water samples lies in the permissible limit as prescribed by BIS showing that mine related seepage is not occurring in the groundwater table of the region. Some samples have moderate turbidity values while the other major parameters fall under the permissible limits. This means that "muddy" nature of the groundwater can be tackled by simple filtration units without requiring any advanced filtration system. *The water quality of the surface water samples collected from the upstream and downstream section of the river falls in the "Good" category.*

The Committee also referred to the Water quality report submitted by NEERI, wherein, at some of the locations, values of arsenic, nickel, iron, manganese, fluoride and such other minerals were found beyond the permissible limits. However, as per the EIA report, Hydrogeological study conducted by IIT (ISM) Dhanbad, carrying capacity study conducted by IIT Patna no such observation was made. The Committee also had gone through the CGWA report 2020, prepared for Tamnar block Raigarh district, as per no arsenic contamination in groundwater was found in any sample collected in Tamnar block. The committee also reviewed the NEERI report for the Tamnar block wherein certain groundwater parameters indicate toxic levels. However these cannot be ascribed to the proposal under consideration since the mine has not started operations. Further, the Committee is of the view that PP shall monitor all these parameters, take mitigation measures if required and submit a report to the concerned RO of MoEF&CC in six monthly report. Safe drinking water shall be supplied to all residents of the ML area.

The Committee is of the view that the PP shall implement the recommendation made in the report of IIT (ISM) Dhanbad in addition to this the Committee is of the view that PP shall optimize the water requirement and also augment or harvest the water by rainwater harvesting measures. PP shall monitor the water quality surface as well as groundwater for the presence of heavy metals. In addition to this, a water audit needs to be done every year for the reduction of specific water consumption by various means. The committee observed that all points w.r.t hydrology raised in the judgement of Hon'ble NGT have been adequately addressed in the above additional study by IIT-ISM Dhanbad.

It was also informed to the Committee that Maharashtra State Power Generation Company Limited has already obtained Stage –II FC on 27.01.2023 and PP vide email dated 03.05.2024 also submitted the letter dated 02/12/2019 issued by the Collector, Raigrah District thereby forwarding the NOCs obtained from Gram Sabha, which are based on meetings of the gram sabha. The Committee is of the view that CECB shall provide their comments on this issue and any other additional information in writing. Further, the Subcommittee shall visit the site and submit its report for further deliberation on the issue. To get an insight of the views of people the Committee also suggested for a socio-economic study.

In the 13th meeting of the EAC, the CECB officials again explained the procedure for Public hearing carried out as per EIA rules and informed the committee that in other projects also a similar procedure is followed.

During the 13th EAC meeting PP submitted the that as suggested by EAC, PP carried out a comprehensive socio-economic study through Entrepreneurship Development Institute of India (EDII), Ahmedabad, which is an acknowledged National Resource Institute for Entrepreneurship education, research & training and is recognized as the Centre of Excellence by Ministry of Skill Development and Entrepreneurship and is also the National resource Organisation (NRO) for the Ministry of Rural Development, Government of India.

The Committee noted that the study was done based on the data collected from fourteen village and Focused Group Discussion held with various stakeholders of 7 Villages. The study covers 14 villages in the Raigarh district of Chhattisgarh, with a population of 13,567. The data collection process for the study employed three primary techniques: personal interviews, focused group discussions, and hand-out questionnaires. The questionnaires were designed to cover a wide range of topics relevant to the survey,

including basic household information, demographic profiles, socio-economic status, occupation patterns, educational status, health status, socio-cultural status, village infrastructure etc. Data Consultation was conducted in all of the villages to ensure a comprehensive understanding of the research area. It is inferred from the survey that the agriculture sector is predominant, and the average annual income from agriculture is 1.35 Lakh; in service, it is 1.25 lakh, and in wage labour, it is 1.09 lakh. Focused Group Discussion has been undertaken in 7 villages out of 14 affected villages. Villages were selected as per the proximity to the mining area, concentration of SC/ST households, most affected villages, and villages having more population. In each village where FGDs are conducted, a common meeting was held with prior information to the members of villages and key informants like Sarpanch, village head, Ward Member, AWW, teachers, farmers, SHG members, etc. Participants highlighted cultural and psychological impacts, including changes in kinship patterns and socio-cultural practices due to the anticipated mining activities. Environmental concerns such as noise pollution, water pollution, air quality degradation, and the impact on forest resources and wildlife were also raised during the discussions. The villagers' also emphasised on the need for Employment, improved road connectivity, access to electricity, safe drinking water, and sanitation facilities.

Residents near mining sites raised concerns about the impact on their traditional livelihoods. Specifically, the SC and ST women communities of mining-affected villages described that they used to make bamboo baskets and leaf plates before mining. At that period, forest resources were abundant, and by collecting bamboo and sal leaves, they were in the habit of preparing and selling these products. But mining has diminished this occupational opportunity. It was further observed that Forty-five religious places, 25 community halls, 11 panchayat bhavans and six grazing grounds are being disturbed.

One of most significant impact of resettlement is the disturbance of the social fabric. A plan needs to be made that maintains the spatial and cultural practices in the new geography. The sanctity of religious places, not just the sanctum sanctorum, needs to be maintained. This is a sensitive area particular for tribals as they tend to have multiple deities and have spatial conditions for them. Providing space for fairs, melas and Haat is mandatory. Cultural and spiritual support can provide opportunities to the affected individuals for cultural expression, traditional rituals, and spiritual guidance to reconnect with their identity and sense of belonging. Since mine would bring a large multi-cultural population from outside these villages, the demography of the area changes disturbing the social fabric. *The Committee is of the view that social fabric of the area needs to be kept intact, accordingly, the R&R plans should be made such that the Cultural and religious belief of the locals are protected.*

As mentioned in the report, cash-only resettlements have led to increased impoverishment due to usage of cash for immediate requirements such a loan repayment, higher conspicuous consumption and involvement in nefarious activities specially in case of tribals. A large number of the outsees are not educated enough to get good jobs and end up becoming marginal labourers. It has been observed in much development and government programmes that in large number of cases money given to men has not been utilised properly. Instead, when the amount is given to the women directly, it has led to high family welfare and women empowerment. In some cases, it reduced domestic violence. Women contribute the upkeep of the homes in rural communities with subsistence farming, gardening, rearing chickens, collecting and processing local produce and other foodstuffs, fishing in streams and petty trading.

To cope up with the psychological impact, emotional support provided by trained counsellors can help the individual and families. Apart from this, raising awareness about mental health through community meetings and informational materials can reduce stigma within affected communities and encourage them to seek help when needed. A holistic programme addressing several issues of improvisation, psychological and cultural impact, and environmental and ecological effects needs to be developed. Education, capacity building, health, and women empowerment should be made central. The mitigating plan for resettlements needs a longer term and hence futuristic approach which maintaining the core of the rural communities.

During the meeting, PP informed that representative of EDII study team Prof. Piyush Kumar Sinha, Chief Mentor, EDII is available online for discussion on the outcomes of the report. Prof. Piyush submitted that about 60% of the area will be relocated. Their employment will be impacted. People in the area are of the view that employment should be generated; only compensation payment will not suffice. Rather thoughtful measures should be taken up to develop skills for alternate employment also. He further submitted that officials from EDII interacted with local community residing in the area, Community leaders support the project and seek support for Employment, Education (Skill development), Infrastructure (Hospitals, Roads etc.), Opportunities of entrepreneurial nature (with combine support of Corporate) Innovative industries, Cultural Support. PP Submitted that apart from compensation they will be giving job to members of the affected families. **The Committee enquired about willingness of the villagers for establishment of the industry.** Prof. Piyush informed that villagers largely support the project due to anticipated benefits in terms of financial compensation, improved livelihoods, and enhanced infrastructure and want the project to be started at the earliest. Many have already invested in their land, expecting greater returns once mining operations commence. He further informed that despite concerns about the potential loss of kinship and traditional ways of life, villagers are optimistic about the developmental opportunities that mining could bring. They anticipate better access to health and education services for their children, contributing to overall improvements in their quality of life.

The Committee *observed that major concerns raised during the Social Impact* Assessment *study carried out by GreenC*

India Consulting Private Limited during 2017 also envisaged that the major issues present in the area include; people are worried about their relocation/migration, leaving their ancestral place and culture, decisions by Govt. being taken without informing them, loss of land and land rates being offered, health issues education issues; pollution, and infrastructure in the area. The Committee observed that it has mentioned in EIA report the based on this SIA the R&R plan was approved by Chhattisgarh Government on 4.02.2020.

The Committee observed that it has mentioned in the Socio-economic report that "Resettlement is a process that requires a longer-term perspective. It is about recreating the current settlement while keeping the future in mind. The efforts needed to create a sustainable ecosystem that achieves a balance between modernity, traditions, technology, ecology and humanity. The life of mine is 77 years and beyond. Efforts must be made to craft strategies and plans for at least 10 years. In many cases, it has been found that the budgets allocated tend to be insufficient as the planning horizon is shorter". The report also provides the guiding principles for developing different mitigation plans. The Committee observed that budget proposed for addressing the issues of PH is Rs 5.275 Crores. The Committee suggested that PP shall prepare a mitigation plan following the guiding principal as mentioned in Socio-economic report within a period of six months and submit it to the Ministry. PP shall ensure that sufficient fund shall be allocated for the same keeping in mind that activities to be carried out for at least 10 years.

10) Further, as desired by the Committee, PP submitted the Health Assessment report for study carried out by ICMR in the Tamnar area during the year 2019-2020 and the report on Anticipated Health Impact Assessment and Recommendations by CSIR CIMFR (June24). The study of CSIR CIMFR was carried out with the objective to conduct the study for anticipated impact of the project on the health of people living in the surrounding area, suggest mitigation measures and offer comments on the ICMR report particularly with reference in this study on the predicted impact of the project on the health of people living in the surrounding area of Gare Palma-II Coal Mine Project in Tamnar, Raigarh, Chhattisgarh. During the meeting PP informed the Committee that Prof Santosh Kumar Ray and Prof Bhanu from CIMFR are available online to discuss the report on Anticipated Health Impact Assessment and Recommendations by CSIR-CIMFR. It was informed to the committee that study envisages the a) The project raises concern about water contamination, alteration of geomorphology, soil fertility loss, food contamination, and ecosystem service disruption. Additionally, occupational hazards include respiratory issues, physical injuries, noise-induced health problems, chemical exposure, psychosocial concerns, and sanitation issues, b) Suggested mitigation measures include dust control, transportation optimization, health screenings, ergonomic assessments, chemical substitution, stress management programs, emergency response plans, water management practices, land reclamation efforts, and community engagement initiatives, c) The primary focus is to meticulously assess the potential ramifications of mining activities on the health concerns of the immediate stakeholders, namely employees and PAPs, and to devise proactive, precautionary, mitigative, and adaptive measures accordingly, d) Mining operations inherently entail various occupational health hazards, including exposure to dust, noise, and hazardous chemicals. Dust generated during mining activities poses respiratory health risks, potentially leading to conditions such as pneumoconiosis and chronic obstructive pulmonary disease (COPD) among workers, e) Similarly, prolonged exposure to high noise levels can result in hearing loss and other auditory disorders, f) Furthermore, the disturbance of land and soil fertility loss can impact agricultural productivity, posing additional challenges to the local community's livelihoods, g) The project's proximity to water bodies raises concerns regarding potential water contamination, which could have far-reaching ecological consequences, h) Due to the large-scale operations proposed by the GPII project, there is a chance of potential water contamination. Activities such as mining, waste disposal, and transportation logistics may introduce pollutants into local water bodies, i) To mitigate these occupational health issues and hazards, comprehensive safety measures and health protocols must be implemented throughout the project lifecycle. This includes providing personal protective equipment (PPE), conducting regular health screenings, ensuring proper ventilation in underground mines, implementing ergonomic work practices, promoting mental health awareness, and engaging in community health programs to address the broader health impacts of mining activities. Additionally, ongoing monitoring and evaluation of occupational health risks are essential to adapt and improve safety measures as needed, j) While the project aims to meet India's growing coal demands, bringing-in economic activities and developing a livelihood facilitating ecosystems in the area however, it has also risk of substantial environmental and occupational health concerns. The study outlined potential risks such as water contamination, alteration of geomorphology, soil fertility loss, food contamination, and disruption of ecosystem services. Similarly, the risk of occupational health contains respiratory hazards, physical injuries, noise- induced health issues, chemical exposure risks, psychosocial health concerns, air and water pollution, and emergency response risks for workers and nearby communities, k) ICMR health vulnerability concerns are indicative of its skewness towards lifestyle and psychosomatic dimensions leading to diseases like high blood pressure (BP), diabetes, etc. This may be addressed by mitigating their stress component, which occurs due to idleness, meagre avenues of economic activity, and a lack of livelihood opportunities leading to mundane life quality, l) As stated above, the mine/project may only be consented towards its go ahead if and only if it is to be carried in a sustainable manner. Additionally, towards the health concerns of its people and larger stakeholders, project proponent must develop a healthy ecosystem beyond mandatorily required dispensary and occupational health centres. This may include developing a multi-speciality hospital with modern instruments and medical professionals to cater the health venerability of the people and community living in the area and vicinity, and m) Ultimately, a collective effort involving government agencies, industry stake holders, local communities and health professionals is essential to ensure responsible management of the mining project and preservation of human health and environmental integrity.

The expert of CSIR-CIMFR also briefed the Committee about the recommendations. The Committee observed that the recommendation of CSIR-CIMFR are as follows:

(i) Design and operate the mine with a focus on minimizing dust generation during coal and Overburden (OB) production processes. Employ advanced technologies and engineering solutions to mitigate dust emissions at the source.

(ii) Implement transportation methods that prevent the exposure of dust to the ambient air. Utilize In-Pit Crushing and Conveying (IPCC) or High Angle Conveying (HAC) mechanisms for material handling and transport to minimize airborne dust.

(iii) Aim to transform the mine into a seldom blast and preferably dumper-free opencast mining by adopting cutting-edge technology for coal production, crushing and transport. This approach not only reduces dust emissions but also enhances work place ergonomics, operational efficiency, health hygiene and safety.

(iv) Implement a closed transportation system utilizing pipe conveyors or enclosed conveyors. This approach ensures that material transport is contained within a closed system, minimizing the dispersion of dust and pollutants into the surrounding environment.

(v) Implement a comprehensive green belt initiative, incorporating dense vegetation surrounding the mine site. This strategic green belt will act as a natural barrier, effectively reducing dust dispersion and minimizing noise pollution, thus mitigating the environmental impact on the surrounding community.

(vi) Mandate regular medical examinations, including spirometry tests, for all workers to monitor lung function and detect early signs of respiratory diseases. Conduct training sessions on proper respiratory hygiene and cough etiquette to prevent the spread of respiratory infections among workers.

(vii) Install proximity detection systems on heavy machinery to alert operators of nearby workers and prevent collisions and crush injuries. Establish designated walkways and traffic zones within the mining site to separate pedestrian and vehicle traffic and reduce the risk of accidents. Conduct ergonomic assessments of workstations and equipment to identify and mitigate ergonomic risk factors contributing to musculoskeletal injuries.

(viii) Provide Personal Protective Equipment (PPE) to all employees to mitigate residual impacts effectively. Ensure that PPE kits are regularly refreshed and samples are periodically tested to maintain their effectiveness in safeguarding the health and safety of workers against any potential hazards encountered during mining operations.

(ix) Implement a comprehensive hearing conservation program, including annual audiometric testing and noise exposure monitoring for all workers. Utilize advanced noise control technologies such as silencers, mufflers, and acoustic enclosures to reduce noise emissions from equipment and machinery. Provide regular training sessions on the proper use and maintenance of hearing protection devices to ensure maximum effectiveness and compliance.

(x) Substitute hazardous chemicals with environmentally friendly alternatives wherever feasible to minimize the risk of chemical exposure to workers and the surrounding environment. Implement a chemical management system to track the handling, storage, and disposal of hazardous substances and ensure compliance with safety regulations. Conduct regular inspections and audits of chemical storage areas to identify and address potential leaks, spills, or contamination risks.

(xi) Offer stress management workshops and resilience training programs to help workers cope with the demands and challenges of mining work. Establish a peer support network or buddy system to encourage social connections and provide emotional support among workers. Promote work-life balance initiatives, and recreational activities to enhance overall well-being and job satisfaction.

(xii) Develop and regularly update emergency response plans and procedures to address potential mine accidents, including fires, explosions, and collapses.

(xiii) Conduct emergency response drills and simulations involving both onsite personnel and local emergency services to ensure readiness and coordination in the event of a crisis.

(xiv) Provide specialized training for designated emergency response teams to effectively handle emergency situations and assist with rescue and evacuation efforts.

(xv) Implement robust water management practices, including regular monitoring of water quality parameters such as pH, turbidity, and heavy metal concentrations.

(xvi) Implement a zero-water discharge policy and establish water bodies within the vicinity to facilitate the treatment and provision of water for the local community. Install sedimentation ponds and filtration systems to capture and treat runoff from mining activities before it enters local water bodies.

(xvii) Collaborate with local communities and regulatory authorities to establish a comprehensive water monitoring program to detect and mitigate any signs of contamination promptly.

(xviii) Implement land reclamation and rehabilitation measures, to restore disturbed areas and minimize erosion and sedimentation.

(xix) Establish buffer zones and conservation areas around sensitive ecological habitats to preserve biodiversity and ecosystem services in the surrounding area.

(xx) Conduct regular soil sampling and analysis to assess nutrient levels and soil health parameters and guide appropriate remediation and restoration efforts.

(xxi) Collaborate with local agricultural extension services and farmers to promote sustainable land management practices and mitigate the impact of mining on agricultural productivity.

(xxii) Establish a systematic approach to managing Overburden Dumps, Coal Dumps, Spoil Heaps, Reject Dumps, and Tailings Dumps to ensure minimal impact on soil and land fertility. Adhere to industry best practices and regulatory guidelines when siting and managing these dumps to safeguard soil quality and preserve land fertility throughout the mining operation's lifecycle.

(xxiii) Provide training and support to local farmers on safe agricultural practices, including proper irrigation techniques and soil management strategies.

The Committee asked the PP about a comparison of diseases in coal bearing area and non-coal bearing area. PP vide letter dated 05.07.2024 submitted village- wise data of diseases occurred in last three years from Gharghoda area (Non-Coal bearing area) & last one year (2023-24) from Tamnar area (Coal bearing area), obtained from Chief Medical Health Officer, Raigarh District. From the data submitted, it is observed that major diseases occurred in non-coal bearing area are TB, Leprosy, Sicle and Diarrhoea. No case has been reported of Silicosis. For coal bearing area major diseases are TB, Sickle cell, Diarrhoea and few cases of Malaria were found. It can be seen from above that the disease occurred in the coal bearing and non-coal bearing area are similar which shows that coal mining does not have much impact on the occurrence of diseases in the area.

The Committee observed that although there is no mining-specific disease in the data given by local health authorities but PP shall organise medical health camps to monitor the health status of the nearby community to keep a check on any mining-induced disease. Further, the Committee is of the view that PP shall provide free health facilities, medicines etc. to PAFs and nearby communities. Additionally, financial assistance is to be provided for critical illnesses such as cancer, organ failure/transplant etc. under CSR budget on a case-to-case basis. The Committee is of the view that these are in addition to the Occupational health plan required for mine workers as per the requirement of DGMS.

11) As desired by EAC, for the purpose of creating a strategy for the post-mining ecological restoration and conservation of the environment in relation to the Gare Palma-II coal mining project in Tamnar, Raigarh, Chhattisgarh, a study was conducted by IIT (ISM), Dhanbad. The study provides various measures that must be taken to reduce the impact of the mining industry on the surrounding ecosystem. Steps to reduce the impact on soil, water, air, wildlife, and ecology of the surrounding area has been suggested under the ecological protection/ restoration plan. The focus should be on the rapid afforestation plan, which is also an essential part of the restoration plan. During the meeting, PP informed that a member of the study team from IIT (ISM) Dhanbad Prof. Vipin Kumar, IIT (ISM) Dhanbad, is available online for discussions on the salient features of the report. Prof. Vipin shared that a baseline study has been presented depicting the current on-ground conditions, including the list of flora and fauna in the area. The study provides various measures that must be taken care to reduce the impact of the mining industry on the soil, water, air, wildlife and ecology of the surrounding area. The restoration plan includes the process of rejuvenating the de-coaled area, using plantation. A

process from the preparation of soil conditions to post-plantation monitoring and auditing has been suggested. Prof. Vipin said that the focus has to be on the rapid afforestation plan. The Plan submitted by IIT-ISM Dhanbad aims to minimize environmental degradation, enhance biodiversity conservation, and promote the ecological resilience of mining-affected areas. Prof. Vipin also shared the details of the site visit and the geology of the relevant area. The Committee noted that Ecological assessment of the area for flora and fauna was done by a team of experts in the field of botany, ecology, and environment by visiting the specific key locations in the area and interacting with the local forest officials and local community. Local senior citizens were employed for this specific project to help in the identification of fauna and flora both by direct and indirect methods. Information on animals and birds was also collected through interviews with the villagers of the core and buffer zones. Secondary data collection on local and native flora and fauna was also done using data from the Botanical Survey of India and Zoological Survey of India and other key plantation journals and survey records. The collected data was further corroborated with local forest officials and people community. The identification of the native flora species was done by field visit and help of cola authorities of the forest department. A list of major flora species in the core and buffer zone of the lease area is submitted in the report. Regarding fauna in the concerned region, the report suggests that the area is rich in fauna life. However, most of the species enumerated falls under the category of 'Least Concern' as per the IUCN classification of animal species. The report provides a list of fauna in the concerned area, which includes 5 Schedule-I species.

The report also entails the plan for topsoil removal, which will help to retain the fertility of the removed soil. The reports entails suggestions on soil conservation and protection, water management, afforestation and plantation drive, wildlife conservation rehabilitation program, mine closure and reclamation and monitoring and compliances. The report suggests that the topsoil of the area (at least up to 100 mm of depth) needs to be stripped from the designated areas and stored carefully before any mining activity of the open cast mine starts. The stored topsoil thereafter needs protection and prevention from eroding forces of nature, especially rainfall, till it is utilized as a surface dover in the stabilization or the reclamation stages. The piles of the overburden comprising of soil need to be maintained on the site with proper engineering and biological approaches to prevent soil erosion a loss. Additionally, the undisturbed areas of the soil, around the river, and the boundaries also need protection from natural forces. The report suggests that the soil management can thus be said to be vital for a) Facilitating the hydrological functioning of the mining area and augmenting the water quality of the Kelo River, b) Conservation of soil cover and arrest the soil erosion, flood, and siltation of the river and its tributaries and consequent relation of siltation in the river of Kelo and its reservoir, c) Soil conservation through biological & engineering measures to reduce sediment load in rivers and tributaries, thus improving the quality of water and d) Increase vegetative cover and water-retaining properties.

The report has suggested various approaches for preserving soil moisture and preventing soil degradation. Further, regarding water management, the report entails the sources of water in the area and further includes water reclamation plan and water pollution control measures, river conservation plan, air quality management, afforestation and plantation drives, wildlife conservation and re-habitations, mine closure and reclamation and monitoring and compliances.

Further, the Committee noted that the report includes various suggestive measures to restore the ecology of the concerned area. The report also contains a list of possible plants for greenbelt plantation, based on the criteria of the block area. The Committee observed that the report entails various incredible suggestions regarding afforestation and greenbelt development, which the PP must include in its plantation programme.

The Committee observed that the report includes auditing parameters and their expected levels at different stages of mine restoration plans, which the PP must ensure to include in its restoration activities. The report includes *recommendations* based on the observations and discussions with the local authorities, which are as follows:

(i) It is important to emphasize that green belt development offers a solution to most of the environmental problem, including noise and air pollution and land deterioration. Thus, all important processes could be supported by plants as a barrier.

(ii) Revegetation in ex-mining lands not only protects the mine soil from degradation due to erosion but also improves the quality of the mine soil itself. Improving the quality of mine soil does not solely come from trees but also from the legume cover crops.

(iii) From the environmental perspective, means putting the land impacted by the mining activity back to a sustainable usable condition, the post mine revegetation should be sustainable, in the long term, under normal land management practices.

(iv) The afforestation and reclamation should be carried out in a way that promotes the growth of fruit-bearing trees, which will draw wildlife and preserve the region's biodiversity. In addition to fruit trees, various flowering plants should be planted to promote biodiversity and attract native and local creatures, including insects, birds,

monkeys, and reptiles. Encouraging the growth of medicinal plants is also vital for the welfare of the surrounding villages. The vetiver plantations may also be encouraged because, in addition to their medicinal potential, the grass species has a high anchoring strength.

(v) Many restoration initiatives may be impacted by extreme weather events including storms, droughts, and heavy rain, thus it is important to plan ahead and prevent these effects. Future fire risk should be taken into account.

(vi) Seasonality and water availability are essential to a species' ability to establish, thrive, and survive. Drought risk should be considered while selecting a restoration site or determining which ecological components to repair.

(vii) In accordance with the guidelines outlined in the mine plan or scheme, the top soil should only be held temporarily at the designated site(s) and should not be left unused for longer than three years. Reclamation of land and plantation should be the proper uses for the topsoil. It is important to design top layers of dumps and batters of depleted mine workings so that the slope allows water to drain naturally while also protecting against erosion from water.

(viii) To stop silt and sediment flows from mine operations and OB dumps, suitable-sized catch drains and siltation ponds should be built. The green belt development can be irrigated with the water so gathered. The drains need to be adequately maintained and desilted on a regular basis, especially after the monsoon. When it's required to drain fertile soil-covered surfaces, drainage facilities (ditches) should be built such that the hazardous layers are completely covered. Use of appropriate protective materials is required to regulate the inflow and discharge of water. Wave movement must be prevented on the batter surfaces, particularly those that are close to and above sea level.

(ix) The characteristics of the soil used for reclamation and the anticipated usage of the area after reclamation determine how thick the covering topsoil layer is. For farmed fields, the biologically active layer of reclaimed soil should be at least 80 - 120 cm thick; for trees, it should be 120 - 200 cm thick.

(x) The establishment of native species is aided by the replacement of fertile overburden material, such as carefully excavated forest floor and topsoil from the cleared opencast working face (fore field), or other biologically active organic materials. It is important to take into account that managing the rootstocks and seeds that are already in the soil is hastening the processes of soil development, particularly the intended humus formation.

(xi) The status of the local flora and wildlife should be routinely observed throughout the year, taking note of variables such as the area covered by vegetation or plantations, the kind of plantations, the kinds of trees, grasses, and shrubs that are present, the spacing between plants, and the survival rate. It is important to make any changes occurring in the area evident. The State Forest and Wildlife Department should be consulted when conducting the study. The social impact perspective should be used to evaluate all reclamation plans. In order to keep an eye on any potential alterations, environmental control measures should also be taken.

12) The Committee observed that it has mentioned in the EIA Report that a proposed alignment of the railway line (4.7 km) is passing through the block, the width of the corridor for the proposed railway line is 90m (45m on either side of tracks). During the Public Hearing held on 29.01.2016. MSPGCL has given the proposal for re-routing the alignment along the periphery of the block boundary citing the reason for blocking 0f 30Mt of coal reserves. The Committee is of the view that PP shall obtain permission from DGMS and concerned railway authorities before such diversion.

13) The Committee also deliberated on the site visit report dated 1/07/2024 submitted by the sub-committee constituted for this purpose vide order dated 17/05/2024. It is revealed from the report that the mining operation is yet to be started for this mine. The sub-committee also visited the Kelo River and in its report suggested that it should not be diverted. The report also mentioned the other mine which is operating at a much lower capacity than the sanctioned capacity. The report also suggested conducting a carrying capacity study and health study. The report concluded that the project may be considered for grant of EC when all the conditions/suggestions/requirements asked by the sub-committee will get completed. The Committee observed that PP has submitted the Carrying Capacity Report and Health Report. Further, there is no diversion of the Kelo River.

14) A site visit by a sub-committee of the EAC for detailed on-site appraisal was done from 17.05.2024 to 19.05.2024. The report of the site visit was discussed by the EAC as a part of the appraisal process. Comments received from the representative of RO, Raipur vide letter dated 27/06/2024 were also brought to the notice of the Chairperson Sub-committee who vide letter dated 10/07/2024 confirmed that the report submitted on 1/07/2024 (refer Annexure – VIII) is the final report. The Committee therefore accepted the report, which based on the ground assessment has recommended to EAC that EC may be granted.

15) The Committee noted that the PP has submitted an EMP Budget of Rs. 1484. 53 Crs (capital cost) and 14.84 Cr (recurring) in the form but in EIA in table 6.3 it has mentioned as 1484.53 Cr and no recurring cost is mentioned. Further, in Table 10.2 it annual cost is mentioned as 1484.54 Cr. Additionally, in chapter 11 in section 11.9 it has mentioned that EMP (Capital Cost) is Rs 148453.76 Lakh and recurring cost is 1557.06 Lakhs. The head-wise cost of EMP is as follows:

Heads	Activities	Amount

PP submitted that a greenbelt will be developed in 36.07 Ha. A 7.5 m wide greenbelt, consisting of at least 3 tiers

Progressive Closure		
Safety and Security	Barbed wire fencing	84.10
	Toe wall around the dump	90.10
	Garland drain around the dump	45.14
	Drainage channel from main OB dump and main sump to Nala	300.50
	Settling pond	80.00
	Securing Air Shaft and installation of bore well pump	20.00
	Securing of incline 1&2	10.00
	Fire stoppings	1328.60
Top soil Management		5628.00
Technical and biological reclamation of mined out land and OB dump	Reclamation	8884.00
	Re-handling of crown dump to East pit	12858.00
	Re-handling of crown dump to West pit	72432.00
Plantation over virgin area including Green Belt	Plantation/Green Belt over virgin Area	143.44
Water quality management		340.00
Air quality management		340.00
Subsidence monitoring		19.09
Manpower cost and supervision		163.50
Sub Total		102766.47
Final Closure		
Dismantling of infrastructure,	Dismantling of workshop	300.00

around mine boundary will be developed as greenbelt and green cover as per CPCB/MoEF&CC. Local and native

disposal/rehabilitation of mining machinery	Dismantling of CHP	500.00
	Dismantling of facilities	1000.00
	Dismantling of pumps and Pipes	45.00
	Dismantling of UG facilities including main fan	100.00
	Dismantling of UG Conveyors	300.00
	Dismantling of UG Rail tracks	150.00
	Dismantling of UG equipment	200.00
	Re-arranging of water pipelines to dump top, park	15.00
	Dismantling of power line	30.00
	Rehabilitation over area of dismantled facilities	203.76
Top soil management		955.00
Technical and biological reclamation of mined out land and OB dump	Reclamation	1659.12
	Rehandling of crown dump to East pit	30822.00
	Rehandling of crown dump to West pit	8943.00
Landscaping and Plantation	Peripheral road, gates, view point, cemented steps on bank	40.00
	Beautification and landscaping over dump	20.00
	Plantation	35.00
Power cost		40.00
Water quality management		12.00
Air quality management		12.00
Subsidence monitoring		0.91

Manpower cost and supervision		4.50
Others, Miscellaneous	Entrepreneurship development (vocational skill development, training for sustainable income of affected people	100.00
	One time financial grant to society/institution/organization which is dependent upon the project	50.00
	Continuation of other services like running of schools etc.	150.00
Sub Total		45687.29
Grand Total		148453.76

species will be planted with a density of 2500 trees per hectare. Total no. of 5641500 saplings in 2256.60 ha area will be planted and nurtured in hectares in 32 years. PP submitted that total area brought under plantation will be 2256.60 Ha which includes [194.76 Ha (external dump within lease area); 2025.77 Ha Plantation in backfilled area and 36.07 Ha Safety zone and greenbelt]. The density of tree plantation will be 2500 sapling/Ha. The budget proposed for the same is Rs 35.0 Lakh. The Committee observed that cost of the plantation is very low and PP shall submit the revised budget for the same as per actual. The Committee is of the view that EMP cost shall also be revised to implement the recommendations made in various study reports.

17) The EAC has also taken into consideration additional information for appraisal such as additional hydrogeological study; health impacts of the proposed mine including health study which also took into account the ICMR study and the information about the prevalent local disease data of the area supplied by state health authorities (as asked for by the EAC); additional carrying capacity study; revised EMP/ EIA; fresh baseline data; mathematical modelling using TMY data and site specific data rather than standard data; Comprehensive Environmental Pollution Index (CEPI data) & CAAQMS data; socio-economic study;Ecology of the surrounding area and post-mining ecological restoration; NEERI report; site visit and public hearing/consultation process including NOC from various gram sabhas (based on gram sabha meetings conducted for FC clearance) while re-appraising this proposal.

1) Based on the discussions held and the documents submitted, the EAC recommended the proposal for Environment Clearance of Gare Palma Sector II Coal Mine Project of 23.6 MTPA Capacity (22.0 MTPA Opencast + 1.6 MTPA Underground) within the mining lease area of 2583.487 Ha located at Thili Rampur, Kunjemura, Gare, Saraitola, Murogaon, Radopali, Pata, Chitwahi, Dholnara, JhinkaBahal, Dolesara, Bhalumura, Sarasmal and Libra villages, Tamnar Tehsil, Raigarh District, Chhattisgarh State by of Maharashtra State Power Generation Company Ltd (MAHAGENCO) under EIA Notification, 2006 (as amended) subject to the compliance of the following specific conditions in addition to the Standard EC conditions.

3.3.5. Recommendation of EAC

Recommended

3.3.6. Details of Environment Conditions

3.3.6.1. Specific

Specific conditions	
1.	The project proponent shall obtain Consent to Establish/Operate from the State Pollution Control Boards for the proposed peak capacity of 23.60 MTPA (OC-22.0 MTPA+UG-1.6 MTPA) prior to the commencement.
2.	NoC from Central Ground Water Authority (CGWA)/ concerned local authority, as the case may be, shall be obtained before drawing the groundwater for the project activities, state pollution control board/pollution control committees shall not issue the consent to operate (CTO) under Air (prevention and control of Pollution) Act and Water (Air (prevention and control of Pollution) Act till the project proponent shall obtain such permission.
3.	The PP shall implement the following recommendations made in the Hydrogeology & Embankment Design report of IIT (ISM) Dhanbad. PP shall install water meters at all intake points and take specific measures for reduction in water consumption and generation of alternative sources of water through rainwater harvesting measures. PP shall monitor the water quality surface as well as groundwater for the presence of heavy metals. Immediate mitigation measures will be adopted if water quality deteriorates. Safe drinking water shall be supplied to all residents of the ML area. Water audit needs to be done every year by a reputed institute for further reduction of water consumption and PP shall implement its recommendations and submit a report to RO annually. a) Provision of garland drains around pit, dump and backfilled area and embankment. b) Discharge from Garland drain shall be connected to settling pond/reservoir before discharging into Kelo river for controlling sediment load. c) The water seeping into the mine shall be collected in mine sump, pumped to surface reservoir where the sediments shall be separated through gravity separation technique. The surface overflow from these reservoirs after suitable treatment shall be recycled for various end uses i.e. drinking water for the community, irrigation and industrial requirements like sprinkling on haul roads, cleaning and washing of vehicles etc. d) During mining a statutory barrier of 100 m is required to be left between the mine workings and the Kelo river bank. The embankment shall be constructed along the banks of the Kelo river, as per the detailed design and alignment given in the report. The height of the embankment shall vary from 2 m to 9 m on the right bank and from 4m to 9m on the left bank. e) It is further planned to strengthen the embankment on riverside by placing large boulders in wire net bags to prevent erosion and damage to the embankment by floods in river/nala besides grouting any weak portions of the embankment. The embankment will also be stabilised by road rollers and vibrators followed by plantation of grass and bushes all over to prevent soil erosion. f) The HDPE geomembrane lining in the embankment will provide puncture and tear resistance, resistance to acids, bases, salts, and organic chemicals, low permeability to water and gases and stability against environmental stress cracking. g) The apron provided at the base of the embankment will help in considerably reducing the seepage through the base of the embankment. In addition, the central core layer will have interlocking arrangement at the base to avoid seepage from the base specially during the occurrence high flood events. h) The possibility of an AI/IOT based real-time water quality and flow monitoring system integrated with online sensor may be explored in Kelo river and Mine water reservoir to keep online track of mine water quality and Kelo river along with the measurement of Kelo river flow, velocity and depth of water. AI inbuild system will help in providing early warning for any un-precedented flood (Flood alert system) & deterioration in water quality well in advance to adopt all proactive measures to minimise the risk.
4.	PP shall submit the study conducted by IIT Dhanbad to State Water Department and obtain permission before diversion of two nalas, one on the west side (Nala A) and one on the East side (Kamara nala) of Kelo river.
5.	The total water requirement is 2785 KLD and the net water requirement is 1785 KLD. The total water requirement will be met by bore-wells at site during the initial 2-3 years after which the mine water will be used after appropriate treatment as required. The total industrial water demand (peak) in operation phase shall be met by utilizing treated mine discharge water. If required, necessary arrangement shall be made to reuse treated water from STP & ETP to nearby TPP or coal washery or future coal washery by entering suitable agreement. No wastewater (treated or untreated) shall be discharged into the river or any other water body.
6.	Water quality and Bioassay tests of kelo shall be monitored quarterly and submitted to the State Pollution Control Board. No waste shall be discharged into the river. Quarterly monitoring of the quality of water from bore wells

	used for drinking purposes shall be conducted and a report thereof shall be submitted to SPCB.
7.	All the villages coming under the zone of influence as in the hydrology study shall be provided with suitable water supply along with sanitation facilities.
8.	PP shall implement the recommendations of NEERI Report within the lease area.
9.	The social fabric of the area needs to be kept intact, accordingly, the R&R plans should be made such that the Cultural and religious beliefs of the locals are protected. Further, PP shall prepare and implement a mitigative plan based on the guiding principles provided in the Socio-Economic Report prepared by the Entrepreneurship Development Institute of India, Ahmedabad (EDII) within six months. The budget proposed for addressing the issues of PH under CER as per the last EC was 45.35 Cr for 5 years. PP shall ensure that sufficient funds shall be allocated for the same keeping in mind that activities are to be carried out for at least 10 years. PP shall submit a time-bound, activity-wise plan with budgetary provisions to the Ministry. After preparation of the plan, PP shall submit the action taken with documentary proof viz. photographs, the amount spent etc. to the concerned RO in six monthly compliance reports. Separate audited accounts shall be maintained. All the recommendations made in the Socio-economic & Social Impact Assessment study shall be complied within a stringent timeframe. The timeline should be submitted to the District Collector for necessary action points.
10.	All the recommendations made in the Socio-economic & Social Impact Assessment study shall be complied within a stringent timeframe. The timeline should be submitted to the District Collector for necessary action points.
11.	PP shall implement the following recommendations made in CSIR-CIMFR report “Advice on mitigation measures to be adopted for the villagers of the GPII coal block area in Tamnar, District Raigarh, Chhattisgarh.”: a) Design and operate the mine with a focus on minimizing dust generation during coal and Overburden (OB) production processes. Employ advanced technologies and engineering solutions to mitigate dust emissions at the source. b) Implement transportation methods that prevent the exposure of dust to the ambient air. Utilize In-Pit Crushing and Conveying (IPCC) or High Angle Conveying (HAC) mechanisms for material handling and transport to minimize airborne dust. c) Aim to transform the mine into a seldom blast and preferably dumper-free opencast mining by adopting cutting-edge technology for coal production, crushing and transport. This approach not only reduces dust emissions but also enhances work place ergonomics, operational efficiency, health hygiene and safety. d) Implement a closed transportation system utilizing pipe conveyors or enclosed conveyors. This approach ensures that material transport is contained within a closed system, minimizing the dispersion of dust and pollutants into the surrounding environment. e) Implement a comprehensive green belt initiative, incorporating dense vegetation surrounding the mine site. This strategic green belt will act as a natural barrier, effectively reducing dust dispersion and minimizing noise pollution, thus mitigating the environmental impact on the surrounding community. f) Mandate regular medical examinations, including spirometry tests, for all workers to monitor lung function and detect early signs of respiratory diseases. Conduct training sessions on proper respiratory hygiene and cough etiquette to prevent the spread of respiratory infections among workers. g) Install proximity detection systems on heavy machinery to alert operators of nearby workers and prevent collisions and crush injuries. Establish designated walkways and traffic zones within the mining site to separate pedestrian and vehicle traffic and reduce the risk of accidents. Conduct ergonomic assessments of workstations and equipment to identify and mitigate ergonomic risk factors contributing to musculoskeletal injuries. h) Provide Personal Protective Equipment (PPE) to all employees to mitigate residual impacts effectively. Ensure that PPE kits are regularly refreshed and samples are periodically tested to maintain their effectiveness in safeguarding the health and safety of workers against any potential hazards encountered during mining operations. i) Implement a comprehensive hearing conservation program, including annual audiometric testing and noise exposure monitoring for all workers. Utilize advanced noise control technologies such as silencers, mufflers, and acoustic enclosures to reduce noise emissions from equipment and machinery. Provide regular training sessions on the proper use and maintenance of hearing protection devices to ensure maximum effectiveness and compliance. j) Substitute hazardous chemicals with environmentally friendly alternatives wherever feasible to minimize the risk of chemical exposure to workers and the surrounding environment. Implement a chemical management system to track the handling, storage, and disposal of hazardous substances and ensure compliance with safety regulations. Conduct regular inspections and audits of chemical storage areas to identify and address potential leaks, spills, or contamination risks.

	k) Offer stress management workshops and resilience training programs to help workers cope with the demands and challenges of mining work. Establish a peer support network or buddy system to encourage social connections and provide emotional support among workers. Promote work-life balance initiatives, and recreational activities to enhance overall well-being and job satisfaction. l) Develop and regularly update emergency response plans and procedures to address potential mine accidents, including fires, explosions, and collapses. m) Conduct emergency response drills and simulations involving both onsite personnel and local emergency services to ensure readiness and coordination in the event of a crisis. n) Provide specialized training for designated emergency response teams to effectively handle emergency situations and assist with rescue and evacuation efforts. o) Implement robust water management practices, including regular monitoring of water quality parameters such as pH, turbidity, and heavy metal concentrations. Since there is a reported presence of arsenic in the area, this should be specifically monitored in the ML area and the residents provided with safe drinking water. p) Implement a zero-water discharge policy and establish water bodies within the vicinity to facilitate the treatment and provision of water for the local community. Install sedimentation ponds and filtration systems to capture and treat runoff from mining activities before it enters local water bodies. q) Collaborate with local communities and regulatory authorities to establish a comprehensive water monitoring program to detect and mitigate any signs of contamination promptly. r) Implement land reclamation and rehabilitation measures, to restore disturbed areas and minimize erosion and sedimentation. s) Establish buffer zones and conservation areas around sensitive ecological habitats to preserve biodiversity and ecosystem services in the surrounding area. t) Conduct regular soil sampling and analysis to assess nutrient levels and soil health parameters and guide appropriate remediation and restoration efforts. u) Collaborate with local agricultural extension services and farmers to promote sustainable land management practices and mitigate the impact of mining on agricultural productivity. v) Establish a systematic approach to managing Overburden Dumps, Coal Dumps, Spoil Heaps, Reject Dumps, and Tailings Dumps to ensure minimal impact on soil and land fertility. Adhere to industry best practices and regulatory guidelines when siting and managing these dumps to safeguard soil quality and preserve land fertility throughout the mining operation's lifecycle. w) Provide training and support to local farmers on safe agricultural practices, including proper irrigation techniques and soil management strategies.
12.	PP shall review the outcome of the skill development programs whether it is providing any benefit or not, and whether it helps the community in getting job/business opportunities. PP shall align the activities as per the present-day needs. The skilled beneficiaries shall be aided in job placements and self-employment ventures by the PP and a record of this shall be maintained. A report in this regard shall be submitted to the concerned RO within 6 months.
13.	PP shall carry out a survey of the impact of blasting in the nearby area/villages by involving a reputed institute and take remedial measures as proposed by the respective institute. Further, provide compensation if any for any damage caused.
14.	PP shall implement the following recommendations made in the report “Plan for the protection of the ecology and post-mining ecological restoration plan for the Gare Palma-II coal mine project, Tamnar, Raigarh, Chhattisgarh”, prepared by ISM Dhanbad: a) It is important to emphasize that green belt development offers a solution to most of the environmental problem, including noise and air pollution and land deterioration. Thus, all important processes could be supported by plants as a barrier. b) Revegetation in ex-mining lands not only protects the mine soil from degradation due to erosion but also improves the quality of the mine soil itself. Improving the quality of mine soil does not solely come from trees but also from the legume cover crops. c) From the environmental perspective, means putting the land impacted by the mining activity back to a sustainable usable condition, the post mine revegetation should be sustainable, in the long term, under normal land management practices. d) The afforestation and reclamation should be carried out in a way that promotes the growth of fruit-bearing trees, which will draw wildlife and preserve the region's biodiversity. In addition to fruit trees, various flowering plants should be planted to promote biodiversity and attract native and local creatures, including insects, birds, monkeys, and reptiles. Encouraging the growth of medicinal plants is also vital for the welfare of the surrounding villages. The vetiver plantations may also be encouraged because, in addition to their medicinal potential, the grass species has a high anchoring strength.

	e) Many restoration initiatives may be impacted by extreme weather events including storms, droughts, and heavy rain, thus it is important to plan ahead and prevent these effects. Future fire risk should be taken into account. f) Seasonality and water availability are essential to a species' ability to establish, thrive, and survive. Drought risk should be considered while selecting a restoration site or determining which ecological components to repair. g) In accordance with the guidelines outlined in the mine plan or scheme, the top soil should only be held temporarily at the designated site(s) and should not be left unused for longer than three years. Reclamation of land and plantation should be the proper uses for the topsoil. It is important to design top layers of dumps and batters of depleted mine workings so that the slope allows water to drain naturally while also protecting against erosion from water. h) To stop silt and sediment flows from mine operations and OB dumps, suitable-sized catch drains and siltation ponds should be built. The green belt development can be irrigated with the water so gathered. The drains need to be adequately maintained and desilted on a regular basis, especially after the monsoon. When it's required to drain fertile soil-covered surfaces, drainage facilities (ditches) should be built such that the hazardous layers are completely covered. Use of appropriate protective materials is required to regulate the inflow and discharge of water. Wave movement must be prevented on the batter surfaces, particularly those that are close to and above sea level. i) The characteristics of the soil used for reclamation and the anticipated usage of the area after reclamation determine how thick the covering topsoil layer is. For farmed fields, the biologically active layer of reclaimed soil should be at least 80 - 120 cm thick; for trees, it should be 120 - 200 cm thick. j) The establishment of native species is aided by the replacement of fertile overburden material, such as carefully excavated forest floor and topsoil from the cleared opencast working face (fore field), or other biologically active organic materials. It is important to take into account that managing the rootstocks and seeds that are already in the soil is hastening the processes of soil development, particularly the intended humus formation. k) The status of the local flora and wildlife should be routinely observed throughout the year, taking note of variables such as the area covered by vegetation or plantations, the kind of plantations, the kinds of trees, grasses, and shrubs that are present, the spacing between plants, and the survival rate. It is important to make any changes occurring in the area evident. The State Forest and Wildlife Department should be consulted when conducting the study. The social impact perspective should be used to evaluate all reclamation plans. In order to keep an eye on any potential alterations, environmental control measures should also be taken.
15.	Progressive backfilling of the mine and progressive reclamation of the OB dump shall be done as per the approved mine closure plan & as per the recommendation of the eco-restoration report.
16.	The project proponent shall take all precautionary measures during mining operations for the conservation and protection of endangered fauna, if any, spotted in the study area. Wildlife Management Plan prepared and approved by PCCF, WL vide letter no. 494/12, dated 20.01.2021 shall be implemented in consultation with the State Forest and Wildlife Department. The budget earmarked for WLCP is Rs 344.40 Lakh. PP shall deposit the amount of WLCP in the Government account as approved by the concerned authority.
17.	PP shall implement the following recommendations made in the Carrying Capacity Report undertaken by CECB, Chhattisgarh through IIT-Patna as applicable for the said mines which include: a) Coal and fly ash transportation is not permitted on any village road. All industrial roads need to be paved with concrete/asphalt and properly maintained with timely repairs. b) Regular water sprinkling work to be taken place on all industrial roads. c) Mine should have a wheel washing system at all entrance and exit points. d) Railway siding needs to adhere to CPCB regulations and should include rain guns, wind-breaking walls, sprinklers, parking lots, access roads, drainage facilities, settling pits, etc. e) If coal is being transported by road, transporters should be charged a surcharge based on their distance and time travelled for the purpose of road maintenance and repair. Plantation should be done along such roads. f) CAAQMS must be installed in almost every village of Tamnar block and consistently connected to the state pollution control board according to CPCB guidelines.
18.	Third-party audit (by NEERI/CIMFR/IIT/NlTs) for air & water quality shall be carried out annually to keep a check on the same. PP shall implement the recommendations of the audit and submit the outcome of the audit to the concerned RO of MoEF&CC.
19.	As per NGT order dated 15.02. 2022 in Original Application No. 104'2018 in the matter of Shivpal Bhagat & Ors vs UIO, PP to i) comply with all the recommendation of Carrying Capacity Study being conducted by reputed institute by CPCB & SPCB, ii) Coal transportation is permitted for only one year through road from date of commissioning and subsequently. transport must be done by rail or closed conveyor belt only, iii) proper and free

	health care facilities with multispecialty treatment system shall be provided in coal mine buffer area, iv) when coal is sold to TPP there is the agreement to sell that at least 25% Fly Ash of the coal sold should be accepted by the coal company (seller) from TPP(Purchaser) failing which coal company shall be liable for civil action and other legal measures.
20.	PP shall ensure that all types of plastic waste generated from the mines shall be stored separately in isolated areas and disposed of strictly adhering to the Plastic Waste Management Rules 2016. In pursuant to the Ministry's OM dated 18/07/2022, PP shall also create awareness among the people working in the project area as well as in its surrounding area on the ban on Single Use Plastic(SUP) in order to ensure compliance of the Ministry's Notification published by the Ministry on 12/08/2021. A report along with the photographs of the measures taken shall also be included in the six monthly compliance reports being submitted by PP.
21.	PP shall obtain a 5-star rating in terms of Environment Compliance from the Ministry of Coal as per the rating system implemented by the Ministry of Coal.
22.	PP shall ensure that No OB dumping is done outside the lease area.
23.	PP shall submit an action plan for using and developing Renewable Energy for its consumption in its utilities/machinery/equipment instead of using electricity from Grid/generated from Thermal Power Plants. PP shall Install additional solar power generation units.
24.	The Committee is of the view as the forest is at a distance of 100 meters PP shall create a natural wind barrier between the lease boundary and the forest area by developing a dense green belt. Impact on the forest land shall be studied/monitored at regular intervals and a report shall be submitted to RO.
25.	PP shall carry out plantation in an area of 2256.60ha area and plant a minimum of 5641500 saplings. The density of the tree plantation shall be maintained at 2500 saplings/Ha. The budget proposed for the same is Rs 35.0 Lakh the same needs to be increased as per the actual plantation & maintenance cost. After completion of the tree plantation. number of trees shall be duly endorsed by the District Forest Officer.
26.	PP shall speed up concurrent Green Belt development so as to achieve the targets within the next 3 years. The green belt and plantation plan submitted in the EIA/EMP shall be implemented in a time-bound manner. A survival rate of at least 80% shall be maintained by carrying out gap plantation in case of mortality. The budget earmarked for the plantation shall be kept in a separate account. PP should annually submit the audited statement of expenditure along with proof of activities viz. photographs (before & after with geolocation date & time), details of expert agency engaged, details of species planted, number of species planted, survival rate, density of plantation etc. to the Regional Office of MoEF&CC and on PARIVESH Portal as the case may be for the activities carried out during previous year.
27.	The plantations done by the PP need to be adequately densified and audited by a third party preferably a forestry institution of MoEFCC (e.g. ICFRE) to assess their efficacy.
28.	To control the production of dust at the source, the crusher and in-pit belt conveyors shall be provided with mist-type sprinklers. Mitigating measures shall be undertaken to control dust and other fugitive emissions all along the roads by providing sufficient fixed-type water sprinklers. Adequate corrective measures shall be undertaken to control dust emissions, which would include mechanized sweeping, water sprinkling/mist spraying on haul roads and loading sites, long-range misting/fogging arrangement, wind barrier wall and vertical greenery system, green belt, dust suppression arrangement at loading and unloading points etc.
29.	The annual EMP budget is Rs 148453.76 Lakh (Table 10.2 of EIA Report) shall be kept in a separate account and audited annually. If required, the same shall be increased. PP shall submit the proof (viz. photographs, reports etc.) of activities taken under EMP and the amount spent to the concerned RO in six monthly compliance reports.
30.	Continuous monitoring of occupational safety and other health hazards and corrective actions need to be ensured.
3	PP shall obtain the permission of the State Public Works Department before the proposed for diversion Roads

1.	from Bajamura to Ghargoda (approx. 11.6 km) and Milupara to Tamnar (app 3 km).
32.	Persons of nearby villages shall be given training on livelihood and skill development to make them employable.
33.	Mining shall be carried out only by surface miners for the project and silo loading till railway siding through in-pit conveyor should be installed to avoid road transportation in 2 years.
34.	Efforts shall be made for utilizing alternate sources of surface water, abandoned mines or else whatsoever and thus minimizing the dependability on a single source.
35.	Active OB Dump should not be kept barren/open and should be covered by temporary grass to avoid air born of particles
36.	PP shall conduct the stability study of OB dump by reputed agencies and necessary approval of DGMS.
37.	Project Proponent shall obtain blasting permission from DGMS for conducting mining operation near villages and also explore deployment of rock breakers of suitable capacity in the project to avoid blasting very near to villages. There shall be no damages caused to habitation/structures due to blasting activity.
38.	Proponent shall appoint an Occupational Health Specialist for Regular and Periodical medical examination of the workers engaged in the Project and maintain records accordingly; also, Occupational health check-ups for workers having some ailments like BP, diabetes, habitual smoking, etc. shall be undertaken once in six months and necessary remedial/preventive measures taken accordingly. The recommendations of National Institute for ensuring good occupational environment for mine workers shall be implemented; The prevention measure for burns, malaria and provision of anti-snake venom including all other paramedical safeguards may be ensured before initiating the mining activities.
39.	Project Proponent shall follow the mitigation measures provided in Office Memorandum No. Z-11013/57/2014-IA.II (M), dated 29th October, 2014. titled “Impact of mining activities on Habitations-Issues related to the mining Projects wherein Habitations and villages are the part of mine lease areas or Habitations and villages are surrounded by the mine lease area”.
40.	The illumination and sound at night at project sites disturb the villages in respect of both human and animal populations. Consequent sleeping disorders and stress may affect the health in the villages located close to mining operations. Habitations have a right for darkness and minimal noise levels at night. PP must ensure that the biological clock of the villages is not disturbed by orienting the floodlights/ masks away from the villagers and keeping the noise levels well within the prescribed limits for day' light/night hours.
41.	PP shall obtain permission from DGMS and concerned railway authorities before diversion/re-alignment of railway line and comply with the conditions/recommendations of the approval so obtained.
42.	PP is advised to implement the 'Ek Ped Maa Ke Naam' Campaign which was launched on 5th June 2024 on the occasion of the World Environment Day to increase the forest cover across the Country. This plantation drive is other than Green belt development. The action in this regard shall be submitted concerned RO in six monthly report.
43.	PP shall gradually shift to e-vehicles/ LNG/CNG transport for men and materials.

3.3.6.2. Standard

1(a)	**Mining of minerals**
Statutory compliance	

1.	The Environmental clearance shall be subject to orders of Hon'ble Supreme Court of India, Hon'ble High Courts, NGT and any other Court of Law, from time to time, and as applicable to the project
2.	The project proponent shall obtain forest clearance under the provisions of Forest (Conservation) Act, 1986, in case of the diversion of forest land for non-forest purpose involved in the project.
3.	The project proponent shall obtain clearance from the National Board for Wildlife, if applicable.
4.	The project proponent shall prepare a Site-Specific Conservation Plan & Wildlife Management Plan and approved by the Chief Wildlife Warden. The recommendations of the approved Site-Specific Conservation Plan / Wildlife Management Plan shall be implemented in consultation with the State Forest Department. TThe implementation report shall be furnished along with the six-monthly compliance report (in case of the presence of schedule-I species in the study area).
5.	The project proponent shall obtain Consent to Establish / Operate under the provisions of Air (Prevention & Control of Pollution) Act, 1981 and the Water (Prevention & Control of Pollution) Act, 1974 from the concerned State pollution Control Board/ Committee.
6.	The project proponent shall obtain the necessary permission from the Central Ground Water Authority
7.	Solid/hazardous waste generated in the mines needs to addressed in accordance to the Solid Waste Management Rules, 2016/Hazardous & Other Waste Management Rules, 2016.
8.	Permission of power supply to be taken from the concerned authority for meeting power demand of the project site.
9.	The maximum production or peak production at any given time shall not exceed the limit as prescribed in the EC.
10.	Validity of EC is as per life of the mine mentioned in EC letter or 30 years as per EIA Notification, 2006 and its amendments therein
Air quality monitoring and mitigation measure	
1.	Adequate ambient air quality monitoring stations shall be established in the core zone as well as in the buffer zone for monitoring of pollutants, namely particulates, SO2 and NOx. Location of the stations shall be decided based on the meteorological data, topographical features and environmentally and ecologically sensitive receptors in consultation with the State Pollution Control Board. Online ambient air quality monitoring station/stations may also be installed in addition to the regular air monitoring stations as per the requirement and/or in consultation with the SPCB
2.	The Ambient Air Quality monitoring in the core zone shall be carried out to ensure the Coal Industry Standards notified vide GSR 742 (E) dated 25th September, 2000 and as amended from time to time by the Central Pollution Control Board. Data on ambient air quality and heavy metals such as Hg, As, Ni, Cd, Cr and other monitoring data shall be regularly reported to the Ministry/Regional Office and to the CPCB/SPCB.
3.	Transportation of coal, to the extent if permitted by road, shall be carried out by covered trucks/conveyors. Effective control measures such as regular water sprinkling/rain gun/ Fog cannon /mist sprinkling etc., shall be carried out in critical areas prone to air pollution with higher level of particulate matter all through the coal transport roads, loading/unloading and transfer points. Fugitive dust emissions from all sources shall be controlled regularly. It shall be ensured that the ambient air quality parameters conform to the norms prescribed by the Central/State Pollution Control Board.
4.	Major approach roads shall be black topped and properly maintained.
5.	PP to install solar lights along the road used for transportation of coal to avoid the accidents at night and also seek its maintenance.

6.	The transportation of coal shall be carried out as per the provisions and route proposed in the approved mining plan. Transportation of the coal through the existing road passing through any village shall be avoided. In case, it is proposed to construct a 'bypass' road, it should be so constructed that the impact of sound, dust and accidents could be appropriately mitigated.
7.	Vehicular emissions shall be kept under control and regularly monitored. All the vehicles engaged in mining and allied activities shall operate only after obtaining 'PUC' certificate from the authorized pollution testing centres.
8.	Coal stock pile/crusher/feeder and breaker material transfer points shall invariably be provided with dust suppression system. Belt-conveyors shall be fully covered to avoid air borne dust. Side cladding all along the conveyor gantry should be made to avoid air borne dust. Drills shall be wet operated or fitted with dust extractors.
9.	Coal handling plant shall be operated with effective control measures w.r.t. various environmental parameters. Environmental friendly sustainable technology should be implemented for mitigating such parameters.
10.	Adequate number of Fog canon (mist sprayer) shall be installed to reduce the impact of air pollution at dust generating sources with time bound action plan.
11.	PP should Install Wind breaker/shield arrangement along the railway siding for reducing the dust propagation in upwind direction.
12.	Post environmental closure third party monitoring by reputed instituted in air quality, water, land & soil etc shall be carried out and analysed with EMP measures at regular interval. A suitable recommendation in this regard, shall be furnished to IRO, MoEF&CC for compliance. The data used for analysis shall be obtained from continuos AQMS, site specific water regime. Also third party shall analyses the implementation of river diversion, meeting to the requirement of project report.
Water quality monitoring and mitigation measures	
1.	The effluent discharge (mine waste water, workshop effluent) shall be monitored in terms of the parameters notified under the Water Act, 1974 Coal Industry Standards vide GSR 742 (E) dated 25th September, 2000 and as amended from time to time by the Central Pollution Control Board.
2.	The monitoring data shall be uploaded on the company's website and displayed at the project site at a suitable location. The circular No.J-20012/1/2006-lA.11 (M) dated 27th May, 2009 issued by Ministry of Environment, Forest and Climate Change shall also be referred in this regard for its compliance.
3.	Regular monitoring of ground water level and quality shall be carried out in and around the mine lease area by establishing a network of existing wells and constructing new piezometers during the mining operations. The monitoring of ground water levels shall be carried out four times a year i.e. pre-monsoon, monsoon, post-monsoon and winter. The ground water quality shall be monitored once a year, and the data thus collected shall be sent regularly to MOEFCC/RO.
4.	Monitoring of water quality upstream and downstream of river including pons, lakes, tanks shall be carried out once in six months and record of monitoring data shall be maintained and submitted to the Ministry of Environment, Forest and Climate Change/Regional Office.
5.	Ground water, excluding mine water, shall not be used for mining operations. Rainwater harvesting shall be implemented for conservation and augmentation of ground water resources.
6.	The project proponent shall not alter major water channels around the site. Appropriate embankment shall be provided along the side of the river/nallah flowing near or adjacent to the mine. The embankment constructed along the river/nallah boundary shall be of suitable dimensions and critical patches shall be strengthened by stone pitching on the river front side, stabilized with plantation so as to withstand the peak water pressure preventing any chance of mine inundation.
7.	Garland drains (of suitable size, gradient and length) around the critical areas i.e. mine shaft and low lying areas, shall be designed keeping at least 50% safety margin over and above the peak sudden rainfall and maximum

	discharge in the area adjoining the mine sites. The sump capacity shall also provide adequate retention period to allow proper settling of silt material of the surface runoff
8.	The water pumped out from the mine, after siltation, shall be utilized for industrial purpose viz. watering the mine area, roads, green belt development etc. The drains shall be regularly desilted particularly after monsoon and maintained properly
9.	Industrial waste water from coal handling plant and mine water shall be properly collected and treated so as to conform to the standards prescribed under the Environment (Protection) Act, 1986 and the Rules made thereunder, and as amended from time to time. Oil and grease trap shall be installed before discharge of workshop effluent. Sewage treatment plant of adequate capacity shall be installed for treatment of domestic waste water.
10.	Adequate groundwater recharge measures shall be taken up for augmentation of ground water. The project authorities shall meet water requirement of nearby village(s) in case the village wells go dry due to dewatering of mine.
11.	The surface drainage plan including surface water conservation plan for the area of influence affected by the said mining operations shall be prepared, considering the presence of any river/rivulet/pond/lake etc., with impact of mining activities on it, and implemented by the project proponent. The surface drainage plan and/or any diversion of natural water courses shall be as per the provisions of the approved Mining Plan/ EIA-EMP submitted to this Ministry and the same should be done with due approval of the concerned State/GoI Authority. The construction of embankment to prevent any danger against inrush of surface water into the mine should be as per the approved mining plan and as per the permission of DGMS.
12.	The project proponent shall take all precautionary measures to ensure reverian/ riparian ecosystem in and around the coal mine upto a distance of 5 km. A revarian /riparian ecosystem conservation and management plan should be prepared and implemented in consultation with the irrigation / water resource department in the state government.
13.	Domestic water shall be providing to the residents/villages which are coming under the zone of influence of the project due to ground water extraction by installing a RO plant with proper supply line and Taps within 2 years
14.	No obselete technologies for sewage treatment shall be implemented. Construction of Sewage Treatment Plant with latest technology should be completed within 2 years and treated water shall be reused for plantation. CTE and CTO of STP shall be obtained as per the norms.
Noise and Vibration monitoring and prevention	
1.	Adequate measures shall be taken for control of noise levels as per Noise Pollution Rules, 2016 in the work environment. Workers engaged in blasting and drilling operations, operation of HEMM, etc shall be provided with personal protective equipments (PPE) like ear plugs/muffs in conformity with the prescribed norms and guidelines in this regard. Adequate awareness programme for users to be conducted. Progress in usage of such accessories to be monitored.
2.	The noise level survey shall be carried out as per the prescribed guidelines to assess noise exposure of the workmen at vulnerable points in the mine premises, and report in this regard shall be submitted to the Ministry/RO on six-monthly basis.
Mining Plan	
1.	5- Star Rating is mandatory to obtaine certification as per guidelines of Mininstry of Coal
2.	Mining shall be carried out under strict adherence to provisions of the Mines Act 1952 and subordinate legislations made there-under as applicable.
3.	No change in mining method i.e. UG to OC, calendar programme and scope of work shall be made without obtaining prior approval of the Ministry of Environment, Forests and Climate Change (MoEFCC).

4.	Mining shall be carried out as per the approved mining plan (including Mine Closure Plan) abiding by mining laws related to coal mining and the relevant circulars issued by Directorate General Mines Safety (DGMS).
5.	Underground work place environmental conditions shall be rendered ergonomic and air breathable with adequate illumination in conformance with DGMS standards.
6.	No mining shall be carried out in forest land without obtaining Forestry Clearance as per Forest (Conservation) Act, 1980 and also adhering to The Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 read with provisions of Indian Forest Act, 1927.
7.	Efforts should be made to reduce energy and fuel consumption by conservation, efficiency improvements and use of renewable energy.
8.	Tranportation by Railway Siding shall be developed to avoid transportation by Road
Land Recalmation	
1.	Digital Survey of entire lease hold area/core zone using Satellite Remote Sensing survey shall be carried out at least once in three years for monitoring land use pattern and report in 1:50,000 scale or as notified by Ministry of Environment, Forest and Climate Change(MOEFCC) from time to time shall be submitted to MOEFCC/Regional Office (RO).
2.	Post-mining land be rendered usable for agricultural/forestry purposes and shall be handed over to the respective State Government, as specified in the Guidelines for Preparation of Mine Closure Plan, issued by the Ministry of Coal dated 27th August, 2009 and subsequent amendments.
3.	Regular monitoring of subsidence movement on the surface over and around the working areas and its impact on natural drainage pattern, water bodies, vegetation, structure, roads and surroundings shall be continued till movement ceases completely. In case of observation of any high rate of subsidence beyond the limit prescribed, appropriate effective mitigation measures shall be taken to avoid loss of life and materials. Cracks should be effectively plugged in with ballast and clay soil/suitable material.
4.	Fly ash shall be used for external dump of overburden, backfilling or stowing of mine as per provisions contained in clause (i) and (ii) of subparagraph (8) of fly ash notification issued vide SO 2804 (E) dated 3rd November, 2009 as amended from time to time. Efforts shall be made to utilize gypsum generated from Flue Gas Desulfurization (FGD), if any, along with fly ash for external dump of overburden, backfilling of mines. Compliance report shall be submitted to Regional Office of MoEF&CC, CPCB and SPCB.
5.	A separate team for subsidence monitoring and surface mitigation measures shall be constituted and continuous monitoring & implementation of mitigation measures be carried out.
6.	Thorough inspection of the mine lease area for any cracks developed at the surface due to mining activities below ground shall be carried out to prevent inrush of water in the mine.
7.	Native tree species shall be selected and planted over areas affected by subsidence.
8.	The project proponent shall make necessary alternative arrangements, if grazing land is involved in core zone, in consultation with the State government to provide alternate areas for livestock grazing, if any. In this context, the project proponent shall implement the directions of Hon'ble Supreme Court with regard to acquiring grazing land.
Public hearing and Human health issues	
1.	Adequate illumination shall be ensured in all mine locations (as per DGMS standards) and monitored.
2.	The project proponent shall undertake occupational health survey for initial and periodical medical examination of the personnel engaged in the project and maintain records accordingly as per the provisions of the Mines Rules, 1955 and DGMS circulars. Besides regular periodic health check-up, 20% of the personnel identified from

	workforce engaged in active mining operations shall be subjected to health check-up for occupational diseases and hearing impairment, if any, as amended time to time.
3.	Personnel (including outsourced employees) working in core zone shall wear protective respiratory devices and shall also be provided with adequate training and information on safety and health aspects.
4.	Skill training as per safety norms specified by DGMS shall be provided to all workmen including the outsourcing employees to ensure high safety standards in mines.
5.	Effective arrangement shall be made to provide and maintain at suitable points conveniently situated, a sufficient supply of drinking water for all the persons employed.
6.	Implementation of the time bound action plan on the issues raised during the public hearing shall be ensured. The project proponent shall undertake all the tasks/measures as per the time bound action plan submitted with budgetary provisions during the public hearing. Land oustees shall be compensated as per the norms laid down in the R&R policy of the company/State Government/Central Government, as applicable.
7.	The project proponent shall follow the mitigation measures provided in this Ministry's OM No.Z-11013/5712014-IA.I1 (M) dated 29th October, 2014, titled 'Impact of mining activities on habitations-issues related to the mining projects wherein habitations and villages are the part of mine lease areas or habitations and villages are surrounded by the mine lease area'.
8.	PP to conduct need based assessment survey of the area to for in order to decide the activities to be carried under the CSR and to provide detail of the activity carried out with adequate budgetary provision and time bound action plan.
9.	PP should conduct epidemiology study to (analysis of the distribution, patterns and determinants of health and disease conditions in defined populations).
10.	Permanent Health care facilities of Hospital should be established within 5 km of project boundary for the local people.
11.	PP must ensure an emergency action plan during pandemic in order to provide assistance to the nearby villages located within the 10 km radius buffer zone (If required)
12.	PP is asked to also identify the rural areas for installation of solar light with its maintenance within the study area of 10 km radius buffer zone with time bound action plan
13.	PP to take measure for installation of Renewable Energy sources in nearby area falling within 10 km radius
Corporate Environment Responsibility	
1.	The company shall have a well laid down environmental policy duly approve by the Board of Directors. The environmental policy should prescribe for standard operating procedures to have proper checks and balances and to bring into focus any infringements/deviation/violation of the environmental/forest/wildlife norms/conditions. The company shall have defined system of reporting infringements/deviation/violation of the environmental/forest/wildlife norms/conditions and/or shareholders/stake holders.
2.	A separate Environmental Cell both at the project and company head quarter level, with qualified personnel shall be set up under the control of senior Executive, who will directly to the head of the organization.
3.	Action plan for implementing EMP and environmental conditions along with responsibility matrix of the company shall be prepared and shall be duly approved by competent authority. The year wise funds earmarked for environmental protection measures shall be kept in separate account and not to be diverted for any other purpose. Year wise progress of implementation of action plan shall be reported to the Ministry/Regional Office along with the Six Monthly Compliance Report.

4.	Self environmental audit shall be conducted annually. Every three years third party environmental audit shall be carried out.
5.	PP should establish in house (at project site) environment laboratory for measurement of environment parameter with respect to air quality and water (surface and ground. A dedicated team to oversee environment management shall be setup which should comprise of Environment Engineers, Laboratory chemist and staff for monitoring of air, water quality parameters on routine basis. Any non- compliance or infringement should be reported to the concerned authority
Miscellaneous	
1.	The project proponent shall make public the environmental clearance granted for their project along with the environmental conditions and safeguards at their cost by prominently advertising it at least in two local newspapers of the District or State, of which one shall be in the vernacular language within seven days and in addition this shall also be displayed in the project proponent's website permanently.
2.	The copies of the environmental clearance shall be submitted by the project proponents to the Heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt.
3.	The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and update the same on half-yearly basis.
4.	The project proponent shall submit six-monthly reports on the status of the compliance of the stipulated environmental conditions on the website of the ministry of Environment, Forest and Climate Change at environment clearance portal.
5.	The project proponent shall submit the environmental statement for each financial year in Form-V to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently and put on the website of the company.
6.	The project authorities shall inform to the Regional Office of the MOEFCC regarding commencement of mining operations.
7.	The project authorities must strictly adhere to the stipulations made by the State Pollution Control Board and the State Government.
8.	The project proponent shall abide by all the commitments and recommendations made in the EIA/EMP report, commitment made during Public Hearing and also that during their presentation to the Expert Appraisal Committee.
9.	No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment, Forests and Climate Change (MoEF&CC).
10.	Concealing factual data or submission of false/fabricated data may result in revocation of this environmental clearance and attract action under the provisions of Environment (Protection) Act, 1986.
11.	The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.
12.	The Ministry reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner shall implement these conditions.
13.	The Regional Office of this Ministry shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data / information/monitoring reports.

14.	The above conditions shall be enforced, inter-alia under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 and the Public Liability Insurance Act, 1991 along with their amendments and Rules and any other orders passed by the Hon'ble Supreme Court of India / High Courts and any other Court of Law relating to the subject matter.
15.	The proponent shall abide by all the commitments and recommendations made in the EIA/EMP report and also that during presentation to the EAC. All the commitments made on the issues raised during public hearing shall also be implemented in letter and spirit.
16.	Compensation of the land acquired for the project shall be settled as per the R&R Policy. Adequate facility of drinking water, plantation and other social amenities should be provided to established R&R villages.
17.	Persons of nearby villages shall be given training on livelihood and skill development to make them employable with its proper records.
18.	The illumination and sound at night at project sites disturb the villages in respect of both human and animal population. Consequent sleeping disorders and stress may affect the health in the villages located close to mining operations. Habitations have a right for darkness and minimal noise levels at night. PPs must ensure that the biological clock of the villages is not disturbed; by orienting the floodlights/ masks away from the villagers and keeping the noise levels well within the prescribed limits for day light/night hours

4. Any Other Item(s)

N/A

5. List of Attendees

Sr. No.	Name	Designation	Email ID	Remarks
1	Dr Sharad Singh Negi	Chairman, EAC	sha**********@gmail.com	Present
2	Dr Santoshkumar Hampannavar	Member (EAC)	san**********@yahoo.com	Present (VC)
3	Shri K B Biswas	Member (EAC)	bis*********@gmail.com	Present (VC)
4	Dr Nazimuddin	Member (EAC)	naz*******@nic.in	Present (VC)
5	Shri Mahi Pal Singh	Member (EAC)	mps********@nic.in	Present
6	Amit Vashishtha	Scientist E	ami**********@nic.in	Present
7	Sh Inder Pal Singh Matharu IFS	Member (EAC)	mat********@gmail.com	Present
8	Sh Lalit Kapur	Member (EAC)	lka********@yahoo.com	Present (VC)
9	Dr Umesh Jagannathrao Kahalekar	Member (EAC)	uka*******@gmail.com	Present
10	Sh Savalge Chandrasekhar	Member (EAC)	sav*****@gmail.com	Present (VC)
11	Prof Shyam Shanker Singh	Member (EAC)	sin********@gmail.com	Present
12	Dr Vinod Agrawal	Member (EAC)	vin*****@yahoo.com	Present
13	Shri Harmeet Sahaney	Member (EAC)	har**********@imd.gov.in	Absent

14	Prof R M Bhattacharjee	Member (EAC)	rmb**********@iitism.ac.in	Absent

MINUTES OF 13th MEETING OF THE EXPERT APPRAISAL COMMITTEE FOR ENVIRONMENT APPRAISAL OF COAL MINING PROJECTS HELD DURING 1st -2nd JULY, 2024 THROUGH HYBRID MODE.

At the outset, the Chairman welcomed the Expert members & other participants and requested to start the proceeding as per the agenda listed for this meeting. The list of Members who participated in the meeting is at ANNEXURE IX. The Standard/Generic EC & ToR conditions shall be system generated through the PARIVESH Portal.

Confirmation of the Minutes of the 12th Meeting of the EAC (Coal): The minutes of the *12th Meeting of the EAC (Coal) held during 5th & 7th June, 2024 have been confirmed by* the EAC with following corrections:

Agenda Item No. 12.4: Proposal for grant of Terms of Reference (ToR) of Kasta East Coal Mine (Lease Area 1409.026 Ha; production 1.89MTPA/2.835MTPA [Targeted/Peak]) of Jitusol Developers Private Limited, located at Villages Arjjunshuli, Barra, Bhurachak, Binodpur, Gohalia, Kankartala, Kaithi, Khajuria, Mundira, Nabasan, Nalgara, Palpai, Parsundi, Rasa, Sahapur, Shira, Tehsil/Block Khoyrasol, Dist. Birbhum, State: West Bengal for conducting studies for Environmental Clearance (EC) of the allotted coal block. – Terms of Reference – Regarding.

[Proposal No. IA/WB/CMIN/466405/2024; File No J-11015/32/2024-IA-II; Consultant: Min Mec Consultancy Private Limited; NABET/EIA/2225/IA 0096 valid till 29.03.2025]

The Committee observed that in the approved MoM of 12th EAC Coal in 11th Para of section 12.4.3, it has mentioned that *"there are a total 5 nos. of nallahs passing through the lease area, out of which the PP reported that 3 nos. of Nallahs which are passing through the western part of the OC pit will be diverted by the end of 6th year"*. The Committee observed that in the aforementioned para Nallah no. 3 was recorded as 3 nos. of Nallahs. The Committee therefore of the view that the said para may be read as " *there are a total 5 nos. of nallahs passing through the lease area, out of which the PP reported that Nallah No 3 which is passing through the western part of the OC pit will be diverted by the end of 6th year"*.

Agenda No. 13.1

Proposal for Amendment in Environment Clearance (EC) of for Cluster VII Coal Mining Project with rated Capacity of 11.42 MTPA in an area of 2127.70 ha, located in the East Central part of Jharia Coalfield in Dhanbad district of Jharkhand state by BCCL- Regarding EC Amendment

[Online Proposal No. IA/JH/CMIN/473199/2024; File No. J-11015/238/2010-IA.II(M); Consultant: CMPDIL, NABET Accreditation ID ORG000880, valid till 04.08.2025]

13.1.1:. The Proposal is for amendment in Environment Clearance granted to BCCL vide letter no. J-11015/238/2010-1A.II (M) dated 12.102018 for expansion from 8.16 MTPA to 11.42 MTPA in mining lease area of 2127.70 Ha located in the East Central part of Jharia Coalfield in Dhanbad district of Jharkhand state.

13.1.2 The EAC during the deliberation observed the following:

- Earlier the Environment clearance for the project was granted under EIA Notification, 2006 vide Ministry's letter no. J-11015/238/2010-IA.II (M) dated 06.02.2013 for a capacity of 8.16 MTPA in an area of 2127.70 Ha. Thereafter PP obtained EC for expansion from 8.16 MTPA to 11.42 MTPA without change of mining lease area vide letter EC dated 12.10.2018. EC was further amended vide EC dated 20.08.2020 for revision in calendar programme.

- The PP has now made an online application vide proposal no. IA/JH/CMIN/473199/2024 Dated 16/05/2024 for amendment of EC Generic condition no.- 4.1(a) (ii) of EC dated 20.08.2020. PP has submitted the following amendment along with justification:

Specific/General Condition No	Details of Conditions	Amendment Sought	Justification
Generic Condition 4.1(a) (ii)	No change in mining method, calendar programme and scope of work without obtaining prior approval of Ministry of Environment, Forest and Climate Change	The proposal is for prior approval as per generic EC condition to undertake Highwall Mining in Rajapur-South Jharia OC without any change in EC Capacity and lease area. There shall be no change in Mine limit and Mine Depth.	For conservation of coal and to improve recovery of coal it is proposed to undertake Highwall Mining. The proposal will enable Highwall Mining (Blast free and Drill Free) along with OC operation in Rajapur- South Jharia OC of Cluster VII without any change in EC Capacity and lease area. • There shall be no change in Mine limit and Mine Depth. • Mining Plan and Mine Closure Plan of Rajapur OC with Highwall Mining Operation for peak EC capacity of 2.56 MTPA has been approved in the 404th Board meeting of Bharat Coking Coal Limited on 05.08.2023

13.1.3: Deliberation by the EAC in the meeting:

PP along with NABET Accredited consultant made a detailed presentation on EC conditions that require amendments along with its justification. The Committee deliberated on various aspects of the proposal and the presentation made by PP. After detailed deliberation, the Committee observed the following:

1) Proposal is for amendment in the Generic Condition 4.1(a) (ii) of EC dated 20.08.2020 and accordingly PP applied under Form-4 on Parivesh Portal.

2) The Committee noted that there are some technical issues in the Parivesh Portal related to the amendment log and other information, for which PP has raised the ticket TIC-24010690 dated 14.06.2024 but at the same time provided the information in its reply dated 14.06.2024.

3) The Committee observed that PP has proposed changing the mining method from Opencast to UG through Highwall Mining. PP submitted that the mine has reached the final pit limit and the amendment sought is to extract the mineral blocked in the safety barrier between the two pits. The PP also clarified that this safety barrier is not around the pit limit of the cluster rather it is between the two pits of cluster mines. PP also showed the photographs and videos of the same. PP informed that a 300-meter drive will be made into the high wall and the length of the high wall will be 2.5 KM.

4) PP also showed the video of Highwall Mining and the Committee observed from the video that after cutting the coal the Highwall Miner discharged the coal at the back side of the miner and from there it is to be loaded into dumpers through loaders. The Committee asked the PP whether the re-handling could be avoided and how much time it would take to drive a 300-meter length in the coal seam. PP informed that to drive a distance of 300 meters for coal cutting, the machine requires around 3 days and also rate of discharge is very slow so there it could not be directly loaded into the dumpers. The Committee is of the view that PP shall arrange a small mobile hopper where the output of the high wall miner can be stored and from there it could be loaded into the dumpers to avoid re-handling.

5) The Committee also asked the PP, whether the mining plan for the proposed method of mining has been approved. PP submitted that the mining plan for the same has already been approved vide letter dated 05.08.2023.

6) The committee asked about the impact of the mining. PP submitted that there is no increase in the production level as well as the lease area for which EIA/EMP was prepared and the existing mitigative measures are sufficient to address the impact of coal cutting and transportation through high wall mining. PP further submitted that as the coal from OC has already been removed and the mine

reached the safety barrier the production would be less than the rated peak capacity.

7) The Committee enquired if any study about safety & subsidence due to the introduction of Highwall mining technology has been done. PP submitted that no such study has been done for the present area, however, a Geotechnical study has been done in Sharda OCM of ECL. The study envisages that based on the Geo-mining parameters considered for Operation at Sharda Mine, no stability problem and any harmful surface subsidence has been experienced in the mining property so far for the last 13 years. PP also submitted a copy of the report vide email dated 01.07.2024. PP further submitted that permission for the introduction of High wall mining equipment at ROCP will be obtained under Regulation 113 of Coal Mine Regulation, 2017 (Extraction of coal by methods other than Board and Pillar) and all conditions shall be fully complied with to ensure long term stability of the working area. The Committee also asked about the land use of barrier surfaces and asked whether any habitation is there. PP submitted that there is no habitation or structure. *The Committee is of the view no mining should be done in safety zone without obtaining necessary permission from DGMS and also monitor the subsidence at regular intervals.*

8) The Committee noted that RO inspection was done on 27.04.2023 and PP submitted the copy of CCR along with ATR dated 07.08.2023. The Committee observed that there are some partially complied conditions related to i) plantation on OB dump area, PP submitted that grass seeds are being spread on active OB Dumps so that temporary grassing develops to check any airborne particles. PP further submitted that presently 1500 Avenue plantation and block plantation in 40 Ha of land has been done through the Divisional Forest Department ii) Construction of Catch drains/garland drains along the remaining OB dumps. PP submitted that Catch/garland drains and siltation ponds are prepared in the monsoon season to prevent any runoff from the mine. The toe wall is being constructed in a phase-wise manner along the finalised OB dumps. iii) Mitigation measures for suppression of fugitive emissions, PP submitted that to control fugitive emissions along roads 16 nos of Mobile Water Sprinklers, 3 nos of Truck Mounted Fog canon & 02 Trolley Mounted Fog Canons and 2 HEMM based Mist Sprinklers with 28 KL Tank capacity are operative in mines. Further, one Mechanical sweeper has been procured and one more is in the final stage of procurement vi) Installation of CAAQMS, for which PP has submitted that CAAQMS has already been installed in Cluster VII. The *Committee is of the view that PP shall expedite the compliance of CCR. Further, the Committee is of the view that PP shall increase the number of fog cannons to reduce the impact of air pollution and shall ensure that all environmental equipment is in place before starting the Highwall mining operations. The Committee desired that PP should submit Geo-tagged photos of plantation areas*. PP vide email dated 01.07.2024 submitted the photographs. *The Committee asked PP to ensure the installation of the Wind barrier wall / Vertical Greenery System at suitable locations. The Committee desired for full compliance of existing EC conditions. Further, RO*

inspection be done within next 6 months and thereafter PP to submit ATR on RO report.

9) The Committee observed that the plantation in the area is not adequate; PP submitted that Jharia Coal fields have fire and due to this, it would be difficult to plant the trees. However, Miyawaki plantation in an area of 25 Ha will be taken up during the monsoon period. PP also submitted an undertaking regarding the same vide email dated 02.07.2024. *The Committee agreed with the practical difficulties being faced in the Jharia Coal field due to fire but it is of the view that in the fire-free area/outside area, the plantation can be done. The Committee asked PP to carry out Concurrent planting on war footing including raising of shrubs and grasses. Further, the Committee is of the view that PP shall also carry out a study of impact on health and environment in the local area due to continuous unabated fire.*

10) The committee asked about the intersection of Groundwater and its impact. PP submitted that the Groundwater level has already been intersected during the opencast mining and proposed Highwall mining will not have any further impact.

Based on the discussion held and the document submitted as per the requirement of Generic Condition 4.1(a) (ii) the EAC ***recommended*** *the proposal for Amendment in Environment Clearance (EC) of Cluster VII Coal Mining Project dated 12.102018 with a rated capacity of 11.42 MTPA in an area of 2127.70 ha, located in the East Central part of Jharia Coalfield in Dhanbad district of Jharkhand state by BCCL for change in method of mining from opencast to Opencast cum UG(Highwall Mining Method) subject to the compliance of the following terms & conditions / specific conditions: -*

1) *PP shall expedite the full compliance existing EC Conditions and submit the ATR after the inspection RO within next 6 months.*

2) *The plantations done by the PP need to be adequately densified during the current monsoon season and audited by a third party preferably a forestry institution of MoEFCC (e.g. ICFRE) to assess their efficacy.*

3) *PP to ensure installation of Wind barrier wall / Vertical Greenery System at suitable locations.*

4) *Miyawaki plantation in an area of 25 Ha will be taken up during the current monsoon period.*

5) *The other terms and conditions of earlier granted ECs and EC amendments shall remain the same.*

6) *No Mining should be done in Safety zone.*

7) *PP is advised to implement the 'Ek Ped Maa Ke Naam' Campaign which was*

launched on 5th June 2024 on the occasion of the World Environment Day to increase the forest cover across the Country. This plantation drive is other than Green belt development. The action in this regard shall be submitted concerned RO in six monthly report.

8) *PP shall also carry out a study of impact on health and environment in the local area due to continuous unabated fire.*

Agenda No. 13.2

Proposal for Amendment in Environment Clearance (EC) of INTEGRATED LAKHANPUR BELPAHAR- LILARI OCP (IB Valley Coalfield) with rated capacity 40.0 MTPA within mine lease area of 4399.246 ha by located in Lakhanpur Area, District Jharsuguda (Odisha) by MCL- Regarding EC Amendment

[Online Proposal No. IA/OR/CMIN/471280/2024; File No. IA-J-11015/15/2019-IA-II(M); Consultant: CMPDIL, NABET Accreditation ID ORG000880, valid till 04.08.2025]

13.2.1:. The Proposal is for amendment in Environment Clearance granted to MCL vide letter no. IA-J-11015/15/2019-IA. II (M) dated 15.01.2024 for expansion and amalgamation of three mines Lakhanpur, Belpahar and Lilari Open Cast mine with increase in production capacity from 32.5 MTPA to 40 MTPA within mine lease area of 4399.246 ha located in Lakhanpur Area, District Jharsuguda (Odisha).

13.2.2 The EAC during the deliberation observed the following:

- The Environment clearance for the project was granted under EIA Notification, 2006 vide Ministry's letter no. IA-J-11015/15/2019-IA. II (M) dated 15.01.2024 for expansion and amalgamation of three mines Lakhanpur, Belpahar and Lilari Open Cast mine with increase in production capacity from 32.5 MTPA to 40 MTPA within mine lease area of 4399.246 ha.

- The PP has now made an online application vide proposal no. IA/OR/CMIN/471280/2024 Dated 02.05.2024 for amendment of EC Specific Condition no.'s 1.3, 1.5, 1.9, Additional Condition Specific No. 1 and Corrigendum in EC as from "32.5 MTPA to 40.0 MTPA" to "32.3 MTPA to 40.0 MTPA" of EC dated 15.01.2024. PP has submitted the following amendment along with justification:

<table>
<tr><th>Specific/ General Condition No.</th><th>Details of Conditions</th><th>Amendment Sought</th><th>Justification</th></tr>
<tr><td>Specific condition no. 1.3</td><td>In addition to the existing facility for 10 MTPA mechanized transportation system, PP shall install dedicated in-pit belt conveyor for 15 MTPA with silo loading system till railway siding for transportation of 100% of extracted coal through rail within six months of grant of EC. No road transportation shall be allowed by State Government. Accordingly, SPCB should grant the consent to operate.</td><td>In addition to the existing facility for 10.0 MTPA mechanized transportation system, PP shall install dedicated in-pit belt conveyor for 20 MTPA with silo loading system till railway siding for transportation of extracted coal through rail & till such time minimum coal shall be transported by road.</td><td>As per the approved Mining Plan of Integrated Lakhanpur-Belpahar-Lilari OCP it was proposed to dispatch 30.0 Mty of coal through SILO and conveyor out of which 10.0 Mty is already operational, 3.5 Mty through MGR and 6.5 Mty through Road sale.

The same has also been mentioned in page 4 of EC letter under section “Coal transportation”

<u>Quote from EC letter dt. 14-01-2024</u>
Coal Transportation: The coal will be dispatched through rail and road mode.
Out of the total 40.0 MTPA of coal, 10.0 MTPA of coal will be transported by pipe conveyors to the washery from receiving hoppers towards north. After washing, washed coal will be transported by conveyors to silo for final dispatch by rail.
For 20.0 Mty ROM coal, receiving hoppers are proposed near southern entry of Central Quarry, which are also near to South Quarry exit. Coal will be transported by conveyors through over-ground bunker to two silos (20 Mty) for rapid loading on rail.
And 3.5 Mty coal will be dispatched to OPGC by rail from sidings and balance 6.5 Mty will be dispatched locally to nearby customers
<u>Unquote</u>
Existing Coal Dispatch Arrangement:<table><tr><td>Sl. No.</td><td>Coal in Mty</td><td>Dispatch Medium</td></tr><tr><td>1</td><td>10.0</td><td>Pipe conveyor, washery and rail Siding 6 & 7</td></tr></table></td></tr>
</table>

2	20.0	By rail Siding no. 3, 6 & 7 within Mine Lease
3	6.5	Local sale by road
4	3.5	To OPGC by Rail through Charla Siding within Mine Lease
Total	40.0	

Proposed Coal Dispatch Arrangement:

Sl. No.	Coal in Mty	Dispatch Medium	Status/ Timeline
1a	10.0	Pipe conveyor, washery	In operation
1b		SILO Phase-I (Physical Progress-98.20%, Financial Progress-96.44%.	By 31.07.2024
1c		Rail line connectivity for SILO is under construction and requires Stage-II forest clearance	By 30.06.2024[$]
2	20.0	By conveyor and SILO Phase II	By 14.05.27[$]
3	4.0	Local sale by road through ATLS	By 30.06.25*

			<table><tr><td>4</td><td>3.5</td><td>To OPGC by Rail through Charla Siding within Mine Lease</td><td>In operation</td></tr><tr><td>5</td><td>2.5</td><td>By rail Siding no. 6 & 7 within Mine Lease</td><td>In operation*</td></tr></table> [$]Silo and rail for 20.0 Mty can be constructed only after obtaining Stage-II Forest Clearance. * Further the 6.5 Mty coal dispatch through road shall be curtailed to 4.0 Mty which will be done through Automatic Truck Loading system and rest 2.5 Mty will be dispatched through railway siding 6&7. From above table it can be observed that in addition to the existing **10.0 Mty mechanized** evacuation system, the project is in the process of developing **20.0 Mty belt and SILO** loading system **by May'27** and **4.0 Mty Automatic Truck Loading System (ATLS) by June'25**.
Specific condition no. 1.5	PP needs to avoid further external dumping over existing OB of Lakhanpur OCP and Belpahar OCP and their re-handling too shall be avoided. Mine shall be modified accordingly.	PP needs to avoid further external dumping over existing OB of Lakhanpur OCP and Belpahar OCP and only re-handling of Lakhanpur OB dump shall be allowed to extract lower seam.	In the proposed project there is no additional external dumping, all the OB produced will be dumped internally. However, re-handling of existing Lakhanpur OB dump is required to extract lower seams namely Rampur and IB seam (approx. 450 Mt) coal. Earlier only top seam named Lajkura has been extracted in Lakhanpur OCP. Thus, re-handling of the existing OB of Lakhanpur is absolutely essential for conservation of coal resources. After re-handling of OB and working of lower seams integration of mines is possible. Progressive backfilling will be done & the same will be technically &

			biologically reclaimed permanently, no further land degradation will be done.
Specific condition no. 1.9	PP shall start backfilling the existing pit in place of increasing the height of OB dump or creation of extra spaces for another dump area.	PP shall start backfilling within mined out void and avoid creation of another dump area	In proposed mine the average stripping ratio during last 5 years was **1.76 cum/t** (OB/Coal). However, in proposed integration to extract the lower seam average stripping ratio will increase to **2.61 cum/t** in next 5 years. This increase in stripping ratio will cause much more OB removal in future years. To accommodate this huge OB and avoid any further external dumping existing mine void in Belpahar OC is not sufficient, it is essential to increase the height of internal dump (within excavation). To keep the entire OB internally, it is necessary to raise the dump top level to 90 m above surrounding ground level due to space constraints and to avoid additional forest areas for the same.
Additional EC condition no. 1	Transportation of materials by rail/conveyor belt with silo loading facility shall be implemented for 40 MTPA.	Transportation of materials by rail/conveyor belt with silo loading facility shall be implemented for not less than 90% of the coal production.	This is in line with specific condition no. 1.3, from which it can be observed coal dispatch has been planned for 30.0 Mty through belt and SILO loading system, 4.0 Mty through ATLS for road sale, 3.5 to OPGC by Siding within Mine Lease and remaining 2.5 Mty from sidings within mining lease.
			Apart from this in the EC letter of Expansion and amalgamation of three mines Lakhanpur, Belpahar and Lilari Open Cast mine it is mentioned that increase in capacity would be from **32.5 Mty to 40.0 Mty** whereas it is **32.3 Mty to 40.0 Mty** (22.5 Mty of Lakhanpur OCP, 9.0 Mty of Belpahar OCP and 0.8 Mty of Lilari OCP).

			So, accordingly a corrigendum in EC may be issued.

13.2.3: Deliberation by the EAC in the meeting:

PP along with NABET Accredited consultant made a detailed presentation on EC conditions that require amendments along with its justification. The Committee deliberated on various aspects of the proposal submitted and the presentation made by PP. After detailed deliberation, the Committee observed the following:

11) Proposal is for amendment in Specific Condition no.'s 1.3, 1.5, 1.9, and Additional Specific Condition No. 1 of EC dated 15.01.2024 and accordingly PP applied under Form-4 on Parivesh Portal.

12) PP also sought correction in production capacity inadvertently mentioned as 32.5 MTPA in place of 32.3 MTPA in EC dated 15.01.2024. The correction is required in Subject, Para no. 2 and Para no. 4 of the said EC. The Committee observed that these are the factual corrections and agreed for the same.

13) The Committee noted that there are some technical issues in Parivesh Portal related to amendment log and other information, for which PP has raised the ticket TIC-24010710 dated 14.06.2024 but PP has provided the information in its reply dated 07.06.2024.

14) As per Specific Condition no. 1.3 regarding transportation of 100% of extracted coal through rail; PP submitted that as per the approved Mining Plan of Integrated Lakhanpur-Belpahar-Lilari OCP, it was proposed to dispatch 30.0 MTPA of coal through SILO and conveyor, out of which 10.0 MTPA is already operational and the project is in the process of developing 20.0 MTPA belt and SILO loading system by May'27. Regarding remaining 10 MTPA, PP submitted that 3.5 MTPA is being transported through MGR and 6.5 MTPA is being transported through Road for local sale. PP has proposed to dispatch 36 MTPA through mechanised means and 4 MTPA through road. The Committee asked about the time line for which PP submitted that the complete system will be get ready by 2027. The Committee is of the view that administrative reason such as delay in tendering etc. is not acceptable and PP should expedite the process of mechanised transportation so that the same shall be completed within a period of one year. Further, The Committee suggested that even the 4 MTPA transportation shall be avoided as far as possible from the large capacity mines and the same shall be made available in the local market from the small capacity mines for which installation of belt conveyor, railway siding etc. are not economically feasible. The

PP agreed to the same and informed the Committee that they will explore the possibility of the same but at this stage to sustain, the production level; the road transportation may be allowed.

15) As regards Specific Condition no. 1.5 for external dumping over existing OB and re-handling, PP submitted that in the proposed project there is no additional external dumping, all the OB produced will be dumped internally. However, re-handling of existing Lakhanpur OB dump is required to extract lower seams namely Rampur and IB seam (approx. 450 Mt) coal. Earlier only top seam named Lajkura has been extracted in Lakhanpur OCP. Thus re-handling of the existing OB of Lakhanpur is absolutely essential for conservation of coal resources. Integration of both the mines will be possible after re-handling of OB and extraction of lower seam in existing Lakhanpur OCP. Progressive backfilling will be done & the same will be technically & biologically reclaimed permanently, no further land degradation will be done. During the meeting the PP also showed the section view of the mine where re-handing of the dump is required. The Committee deliberated on the same and agreed to allow the re-handling for Lakhanpur OCP only.

16) For Specific Condition no. 1.9 regarding start backfilling the existing pit in place of increasing the height of OB dump PP submitted that in proposed mine the average stripping ratio during last 5 years was 1.76 cum/t (OB/Coal). However, in proposed integration to extract the lower seam average stripping ratio will increase to 2.61 cum/t in next 5 years. This increase in stripping ratio will cause much more OB removal in future years. To accommodate this huge OB and avoid any further external dumping existing mine void in Belpahar OC is not sufficient, it is essential to increase the height of internal dump (within excavation). To keep the entire OB internally, it is necessary to raise the dump top level to 90 m above surrounding ground level due to space constraints and to avoid additional forest areas for the same. The Committee is of the view that PP shall take necessary precautions as dump height is proposed to be maintained 90m above the ground level. The Committee suggested that PP shall get a study done from reputed institute for the stability of the dump and mitigative measures for any impact on Environment including air quality. The Committee is of the view that dump stabilization should start as soon as possible and not later than 7th year. Further, the dump needs to be biologically reclaimed. The Committee therefore is of the view that the condition can be exempted once the PP submits the desired report and approved mining plan (if required).

17) As per Additional EC condition no. 1, Transportation of materials by rail/conveyor belt with silo loading facility shall be implemented for 40 MTPA. PP submitted that this is in line with specific condition no. 1.3, from which it can be observed coal dispatch has been planned for 30.0 MTPA through belt and SILO loading system, 4.0 MTPA through ATLS for road sale, 3.5 to OPGC by Siding within Mine Lease and remaining 2.5 MTPA from sidings within mining lease. The Committee is of the view that as discussed above the relaxation may be considered till 31/07/2025.

18) The Committee also discussed on the reduction of specific diesel consumption for which PP submitted that they are undergoing a project for use of LNG in the dumpers. PP informed that trial is going on and they are able to use it with HSD but facing some issues due to evaporation of LNG. For this project they have retro fitted the kits for the same in the dumpers and trails are going on to resolve the issues. The Committee appreciated the efforts made by the PP. In addition to this PP also submitted that they have also called the manufacturer of electric dumpers to discuss the requirement of PP and feasibility of using the same for the mining operations. The Committee is of the view that the PP shall update the Ministry/EAC about the progress made in this regard.

19) After the discussion the Committee recommended the following:

Specific/ General Condition No.	Details of Conditions	Amendment Sought	Recommendation of EAC
Specific condition no. 1.3	In addition to the existing facility for 10 MTPA mechanized transportation system, PP shall install dedicated in-pit belt conveyor for 15 MTPA with silo loading system till railway siding for transportation of 100% of extracted coal through rail within six months of grant of EC. No road transportation shall be allowed by State Government. Accordingly, SPCB should grant the	In addition to the existing facility for 10.0 MTPA mechanized transportation system, PP shall install dedicated in-pit belt conveyor for 20 MTPA with silo loading system till railway siding for transportation of extracted coal through rail & till such time minimum coal shall be transported by road.	**Agreed** for one year the condition shall be read as: *"In addition to the existing facility for 10.0 MTPA mechanized transportation system, PP shall install dedicated in-pit belt conveyor for 20 MTPA with silo loading system till railway siding for transportation of extracted coal through rail & till such time minimum coal shall be transported by road till 31/07/2025."*

	consent to operate.		
Specific condition no. 1.5	PP needs to avoid further external dumping over existing OB of Lakhanpur OCP and Belpahar OCP and their re-handling too shall be avoided. Mine shall be modified accordingly.	PP needs to avoid further external dumping over existing OB of Lakhanpur OCP and Belpahar OCP and only re-handling of Lakhanpur OB dump shall be allowed to extract lower seam.	**Agreed**.
Specific condition no. 1.9	PP shall start backfilling the existing pit in place of increasing the height of OB dump or creation of extra spaces for another dump area.	PP shall start backfilling within mined out void and avoid creation of another dump area.	**Agreed**. The condition shall be read as: "*PP shall start backfilling within the mined out void and shall not create another dump area. PP shall submit a study regarding the stability of the dump and its biological reclamation to RO, MoEF&CC within one year and implement its recommendations, till then the height of the dump shall not be more than 60 m above the ground level*."
Additional EC condition no. 1	Transportation of materials by rail/conveyor belt with silo loading facility shall be implemented for 40 MTPA.	Transportation of materials by rail/conveyor belt with silo loading facility shall be implemented for not less than 90% of the coal production.	**Agreed**. The condition shall be read as: "*Transportation of materials by rail/conveyor belt with silo loading facility shall be implemented for 40 MTPA within one year and the coal should not be transported through road after 31/7/2025."*

Correction in production capacity inadvertently mentioned as 32.5 MTPA in place of 32.3 MTPA in EC dated 15.01.2024. The correction in Subject, Para no. 2 and Para no. 4 of the said EC is **agreed** for the factual corrections and the production figure shall be read as 32.3 MTPA.

*Based on the discussion held and documents submitted the Committee **recommended** the above amendment and correction in EC dated 15.01.2024 granted for INTEGRATED LAKHANPURBELPAHAR- LILARI OCP (IB Valley Coalfield) with rated capacity 40.0 MTPA within mine lease area of 4399.246 ha by located in Lakhanpur Area, District Jharsuguda (Odisha) by MCL. Subject to the compliance of the following terms & conditions / specific conditions: -*

i. *PP shall comply with the earlier EC conditions and get the inspection done from RO and submit an ATR within 6 months.*

ii. *PP shall install sufficient numbers of CAQMS and meteorological stations to monitor the core and buffer zone. PP shall explore the possibility of installation of mobile CAQMS to capture the air quality within the core working zone.*

iii. *Dump stabilisation should start from 7th year onwards*

iv. *The other terms and conditions of earlier granted ECs and EC amendments shall remain the same.*

v. *PP is advised to implement the 'Ek Ped Maa Ke Naam' Campaign which was launched on 5th June 2024 on the occasion of the World Environment Day to increase the forest cover across the Country. This plantation drive is other than Green belt development. The action in this regard shall be submitted concerned RO in six monthly report.*

Agenda no 13.3

Proposal for grant of Terms of Reference (ToR) of Gondbahera Ujheni Underground Coal Mine (ML Area 1926.246 Ha, rated capacity of 4.12 MTPA) of MP Natural Resources Pvt Ltd., located at Village- Talwa, Devra, Tingudi, Ujheni & Majhauli, Tehsil- Deosar, District- Singrauli, State- Madhya Pradesh – Terms of Reference (ToR) – Regarding.

[Proposal No. IA/MP/CMIN/475187/2024; File No. J-11015/41/2024-IA. II(M); Consultant: Perfect Enviro Solutions Pvt. Ltd.; Accreditation No. NABET/EIA/2225/RA 0284]

13.3.1: The present proposal is for grant or Terms of Reference (ToR) for Gondbahera Underground Coal Mine having mine lease area 1926.246 Ha with production capacity of

4.12 MTPA, located at village – Talwa, Devra, Tingudi, Ujheni and Majhauli, Tehsil – Deosar, District – Singrauli, State – Madhya Pradesh. MP Natural Resources Pvt. Ltd has made an online application vide proposal no. IA/MP/CMIN/475187/2024 on 24.05.2024 along with the application in the prescribed format (Form – I), copy of pre-feasibility report and proposed ToRs for undertaking detailed EIA study as per EIA Notification, 2006 for the project mentioned above.

13.3.2: Details of the proposal as ascertained from the proposal documents and as revealed from the discussion held during the meeting, are given as under:

13.3.2.1: Location:

i) The project area is covered under Survey of India Topo sheet No 63 L/8 and is bounded by the geographical coordinates ranging from 24°08′57"N to 24°11′27"N, and Longitudes 82°19′53"E to 82°23′38"E. The DGPS coordinates of the ML area are given in Table 2 of Pre-feasibility report.

ii) Project does not fall in the Critically Polluted Area (CPA), where the MoEF&CC's vide its OM dated 13th January, 2010 has imposed moratorium on grant of Environment Clearance.

13.3.2.2: Forest Area: PP submitted that the project involves total 461.777 Ha of forestland for which application to obtain approval has already been filed vide proposal no. FP/MP/MIN/QRY/473885/2024. The PP submitted that there is no broken forestland as this is an underground mine and there is no violation of FC Act.

13.3.2.3: Protected Area: The PP reported that the project is not located within 10 KM of any ESZ/ ESA/ National Park/ Wildlife Sanctuary/ Biosphere reserve/ Tiger reserve/ Elephant reserve/ Tiger corridor/ Elephant corridor etc. PP further reported the there is no violation of WLP Act. PP also submitted that wildlife study will be done to assess the wildlife issues involved and accordingly will prepare the Wildlife Management Plan.

13.3.2.4: Mining Lease: PP submitted that the mine lease was allotted via allocation order letter no. NA-104/15/2023-NA, dated 08.06.2023 for the area of 2040 Ha, out of which project area is 1926.246 Ha. Expiry date of the allocation order is 31.03.2055.

13.3.2.5: Mining Plan: The PP submitted that the mining plan & mine closure plan for the project has been approved for 4.12 MTPA (normative), over an area of 1926.246 Ha vide application no. Gondbahera Ujheni Coal Mine - MPMP051/APP00290/2023 dated 03.06.2024.

13.3.2.6: Method of Mining: The PP submitted the following:

i) Method of mining to be adopted shall be Underground. The Capacity of the mine applied for Normative capacity is 4.12 MTPA and peak capacity 6.18 MTPA as per approved mining plan.

ii) Excavation of Coal will be done by underground mining with board and pillar method deploying continuous miner technology. Being an underground mine, the waste/OB will only be generated during drivage's of incline, & shafts sinking and also from drivage's of cross-cuts in hard rock is estimated to be about 0.438 million Cum.

iii) Total geological reserve reported in the mine lease area is 722.977 MT with 286.8290 MT is mineable reserve. Out of total mineable reserves of 286.829 MT, 158.544 MT is available for extraction. The percentage of extraction is 23.562 %.

iv) There are 7 workable seams by UG method in the block. Seam-VIII, Seam-VII (Top, Bot and comb), Seam-VI and Seam-V are at depth with thickness ranging from 0.35 to 16.60 m. Seams R-3, R-1 and RL-5 are near the surface with thickness ranging from 0.15 to 6.80 m. The grade of coal is avg. G10, and gradient is 50.

v) Life of mine is 51 years.

vi) The seams are proposed to be mined by underground mining with board and pillar method deploying continuous miner technology, therefore, OB shall not be generated during mining. The waste/OB will only be generated during drivage's of incline, & shafts sinking and also from drivage's of cross-cuts in hard rock is estimated to be about 0.438 million cum which will be used in embankment for preparation bank head and filling of low-lying areas.

vii) Out of the entire 1926.246 ha land area, 38.449 ha will be used for road and infrastructure development, 1.41 ha will be under UG entry, 0.468 ha will be used for road diversion and the rest 1885.919 ha will be undisturbed area having mining right for underground area. At the end of the conceptual period, a total 37.127 Ha will be afforested.

viii)**Details of Land usage**

a. Pre-mining

S. No.	Land Use	Within ML Area (ha)	Outside ML Area (ha)	Total
1.	Agricultural Land	1018.102	-	1018.102
2.	Forest land	461.777	-	461.777
3.	Waste land	-	-	-
4.	Grazing land	-	-	-
5.	Surface Water Bodies	-	-	-
6.	Settlements	-	-	-
7.	Others (Specify)	446.367 (govt. land)	-	446.367
Total		1926.246	-	1926.246

b. During mining

S. No.	Land Use during Mining	Land Use (Ha)					
		Plantation	Infra	Water Body	Public Use	Undisturbed	Total
1.	External OB Dump	-	-	-	-	-	-
2.	Top soil Dump	-	-	-	-	-	-
3.	Excavation	-	-	-	-	-	-
4.	Roads & Built up areas	-	25.859	-	0.468	-	26.327
5.	Green belt	14	-	-	-	-	14
6.	Safety Zone	-	-	-	-	-	-

7.	Undisturbed Area	-	-	-	-	1885.919	1885.919

c. Post-Mining

S. No.	Type	Total Area	Reclaimed Area	Un- reclaimed area
1.	Excavation/Quarry Area:	-	-	-
	(a) Backfilled areas	-	-	-
	(b) Excavated Void	-	-	-
2.	External Dump	-	-	-
3.	Safety Zone	-	-	-
4.	Road and infrastructure	-	37.127	2.732
5.	Garland Drains	-	-	-
6.	Embankment	-	-	-
7.	Others (road diversion)	-	-	0.468

ix) **Details of transportation of Coal:** The material is proposed to be transported by Track Haulage system by series of conveyors

(i) In pit: Conveyor

(ii) Surface to siding: Conveyor.

(iii) Siding to loading: Silo to Railway.

(iv) Quantity being transported by Road/Rail/conveyor/ropeway: 4.12 MTPA

x) Detailed Status of Progressive Mining Closure Plan is not applicable as it is a Greenfield project.

xi) **Details of villages/habitation in mine lease area**: There are five no. of villages within the mining lease area. Being an underground mining project there will be no shifting of villages.

xii) **Acquisition:** Lease is yet to be granted for this auction block.

xiii)**Reclamation:** The reclamation plan includes

i) Afforestation shall be done covering an area of 37.127 ha. This will include the infrastructure area.
ii) Green Belt (in ha)- 14 ha
iii) Density of tree plantation (in no of plants)- 2500 per ha

13.3.2.7: Legal issues/ Violation: PP reported that there is no legal issue/ violation w.r.t Environment (Protection) Act, ii) Air(P&CP) Act, Water (P&CP), Act, Forest Conservation Act, Wildlife Protection Act, CRZ Notification, MMDR Act, Factories Act. Further, there is no court case on the project.

13.3.2.8: Baseline Studies: PP submitted that baseline monitoring has already been done during post monsoon period Oct 2023-Dec 2023. PP reported that the Laboratory involved in analysis of water, air, noise & soil quality data, etc. has been accredited by the NABL/ MoEF&CC bearing the Certificate of Accreditation No TC-6993 and valid from 04/04/2023 till 03/04/2025.

13.3.2.9: Water requirement: The PP reported that there is groundwater intersection involved, for which NoC from CGWA will be obtained later. PP reported that sources of water will be groundwater, seepage water and bore well. Further, the water requirement reported by the PP during construction period is 160 KLD (for domestic and construction activity) and during operation phase 1753 KLD (for mining activity, sprinkling, and domestic purpose). PP also, reported that there is no River/ Nallah diversion proposed.

13.3.2.10: Solid and Hazardous Waste: PP submitted the following details of solid and hazardous waste generation along with its mode of treatment/ disposal:

Sl No	Type of Waste	Source	Quantity (TPA)	Mode of Treatment	Disposal	Remarks
1.	Biodegradable	Domestic	23.33	Composted and will be used for plantation		-

2.	Non Biodegradable	Domestic	34.98	The generated waste will be handed over to authorized recyclers	-
3.	Solid waste	Generated during incline drivages and Shaft sinking for mine entries	4,38,000 Cum (One time)	Total 4,38,000 Cum muck will be generated one time and will be utilized in infrastructure within mine lease	-
4.	Plastic waste	Domestic waste from Site office	2.5	Sold to authorized vendor	-
5.	Hazardous waste	From HEMM and other mining equipment's	5	Authorized CPCB recyclers	-
6.	E waste	Computers, switches, cable etc	0.1	Authorized vendors as per E waste management 2022	-
7.	Battery waste	vehicles	0.5	As per battery waste management rules 2022, waste will be sold to Authorized vendors for recycling	-
8.	Biomedical waste	Dispensary	0.05	Incineration by nearby hospitals or authorized vendors.	-

13.3.2.11: R&R Plan: The PP submitted that, since it is an underground mine, the land requirement will be limited and wherever the land will be required, it will be acquired on a one-to-one basis. Hence, no R&R is required.

13.3.3: Observations and deliberations of the EAC:

PP and the NABET Accredited Consultant made a detailed presentation and the Committee deliberated on the various aspects of the project including the method of mining, dumping, transportation, forest area etc. The observations made by the EAC are as follows:

1) The proposal of MP Natural Resources Pvt Ltd. is for grant of Terms of Reference (ToR) for the production of 4.12 MTPA from Gondbahera Ujheni Underground Coal Mine in ML Area 1926.246 Ha, located at Village- Talwa, Devra, Tingudi, Ujheni & Majhauli, Tehsil- Deosar, District- Singrauli, State- Madhya Pradesh.

2) The Ministry of Coal vide Order No. NA-104/15/2023-NA, dated 08.06.2023 issued an order regarding the allocation of the mine lease. The Committee deliberated on the mine lease area of this particular block and asked the PP to submit lease boundary certificate demarked by the CMPDI. The PP in this regard submitted the certified plan by CMPDI (letter dated 22.12.2023) for the block boundary of Gondbahera Ujheni Coal Block vide letter dated 02.07.2024. Further, the Mine plan and the mine closure plan for production of 4.12 MTPA (the rated capacity) from the lease area of 1926.246 Ha, were approved by the Ministry of Coal vide application no. Gondbahera Ujheni Coal Mine - MPMP051/APP00290/2023 dated 03.06.2024.

3) PP reported that the project involves total 461.777 Ha of forestland for which application to obtain approval, has already been filed vide proposal no. FP/MP/MIN/QRY/473885/2024. The PP submitted that there is no broken forestland as this is an underground mine and there is no violation of FC Act. The Committee observed that surface activities is proposed on 40.33 Ha on the non-forest land.

4) The Committee asked the PP to submit the screenshot of the forest application status made to DFO. The PP vide letter dated 02.07.2024, submitted that the forest diversion proposal was accepted at PSC1 dated 11.06.2024 and at present is pending at DFO/ CF/ Nodal Officer for site inspection. PP has also submitted the screenshot of the same. The Committee also deliberated on the type of forest involved in the lease area, for which the PP submitted that the entire forest area involved in the lease area is reserve forest. The Committee also asked the PP for concurrent plantation plan including plan for densification of existing forest.

5) PP reported that the project is not located within 10 KM of any ESZ/ ESA/ National Park/ Wildlife Sanctuary/ Biosphere reserve/ Tiger reserve/ Elephant reserve/ Tiger corridor/ Elephant corridor etc. PP further reported the there is no violation of WLP Act. PP also submitted that wildlife study will be done to assess the wildlife issues involved and accordingly will prepare the Wildlife Management Plan. The Committee asked the PP to submit the primary data of bio-diversity of the respective area (including list of Schedule – I species). The PP vide letter dated 02.07.2024 submitted the draft bio-diversity report including the list of flora and fauna and Schedule–I Species. The Committee observed that the Schedule-1 species is as per WLP, 1972 as PP shall refer WLP, 2022 also for the same. Additionally, PP shall obtain the authenticated list of schedule-1 species from the concerned department.

6) The Committee observed that location of mine is in District- Singrauli, of Madhya Pradesh and as per CEPI 2018 assessment the score was 62.59 combined for Singrauli -Sonbhdra Industrial Area. The MoEF&CC vide OM dated 20.07.2022 as per which CEPI score of Singrauli is 61.38 and it comes under SPA. PP submitted letter dated 24.06.2024 issued by Member Secretary, SPCB Bhopal wherein it has mentioned that Gondbahera Ujheni Underground Coal Mine is not coming under SPA, Singrauli and the mine is located at a distance of 18.84 KM from the same.

7) PP submitted that there is no court case on the project.

8) The Committee observed that baseline monitoring has already been done during post monsoon period Oct 2023-Dec 2023 as per MoEF&CC OM dated 8.06.2022.

9) The Committee deliberated on the plantation activities by the PP. The PP submitted that greenbelt will be developed in the area of 14 Ha in the first five years and the density of the plantation will be 2500 number of plants per Ha. The PP also submitted that afforestation shall be done at the end of conceptual stage covering an area of 37.127 ha. This will include the infrastructure area and dense plantation will be done along the approach road. The Committee asked the PP to do intensive plantation around the conveyor belt and incline, in order to mitigate the noise pollution and air pollution. The Committee also asked the PP to submit the plantation plan for forest land and government land and asked the PP to start plantation activities concurrently from the 1st year onwards.

10) The Committee deliberated on the habitation and the sensitive man-made land

uses in the lease area. The PP submitted that since this is an underground mine, there will be no displacement of habitation within the lease area. The committee observed that there are 3 schools, temples and a government hospital in the lease area. The Committee deliberated on the social environment measures that the PP is going to undertake. PP submitted that periodic health check-up of local villagers will be conducted. PP also submitted that about 540 people during construction phase and 1178 people during operation phase will be given employment in the project and besides this, indirect employment will also be generated due to ancillary activities. The Committee asked the PP to explore possibility of relocation of nearby schools and also take mitigative measures around the schools within the lease area in order to safeguard the interest and health of students. Apart from this, Committee also asked PP to establish a new school and provide free of cost education. The PP agreed for the same.

11) The Committee observed that there is some habitation near to incline location and what about the right of way for the persons who might have their houses away from the incline but have their agricultural field near to the same or near to conveyor belt. PP submitted that they will ensure that local people will not face any problem. The Committee is of the view that PP shall ensure the safety of the general public and their Cattel's as the belt conveyor is passing through the agricultural fields. The Committee also suggested that proper fencing should be provided and natural wind barrier shall also be created between the mine infrastructure and settlements.

12) PP submitted that total electricity requirement is 16 MW, for which the main source will be MPMKVVCL. The PP also submitted that the proposed renewable energy source will be for 16 MW which will contribute about 0.1% of the total energy requirement and the energy conservation measure proposed is use of solar lighting. The Committee is of the view that PP shall align the project towards achieving SDGs.

13) The PP submitted that the total manpower requirement for the said project will be about 540 (30 permanent + 510 contractual) people during construction phase and 1178 (130 permanent + 1048 contractual) people during operation phase and each will be given employment according to their qualification and capabilities in the project and besides this, indirect employment will also be generated due to

ancillary activities. The Committee is of the view that PP shall submit a plan for skill development of the PAF and nearby community so that they are capable enough to get employment/self-employed.

14) The expected project cost submitted by the PP is Rs. 2464 Crore.

15) PP submitted that the method of mining to be adopted shall be Underground and excavation of coal will be done by underground mining with board and pillar method deploying continuous miner technology. PP submitted that being an underground mine, the waste/ OB will be generated during drivage's of incline, & shafts sinking and also from drivage's of cross-cuts in hard rock. The Committee is of the view that PP shall explore the possibility of using electric/e-vehicles/cleaner fuel (LNG/CNG) based mining machinery and trucks for mining operations and transportation of coal.

16) Details of reserves and resources submitted by the PP are as follows:

- Net Geological reserves – 722.977 MT
- Mineable reserves – 286.8290 MT
- Extractable reserves – 158.544 MT
- Life of Mine – 51 Years

17) The Committee observed that as per DSS analysis on Topo Sheet map, Bandhay Nadi is passing through the southern part of the lease and also there are some water bodies inside the lease area. PP submitted that as it is an underground mine, there is no diversion proposed of the Bandhey River. The Committee asked the PP to submit the details of the existing water bodies within the lease area. The PP submitted the same vide letter dated 02.07.2024, and reported that there are total 7 no.s of ponds present in the core zone and total 12 no.s of water bodies present in the buffer zone. The details of the same are as follows:

Water bodies within 10 KM radius

S. No.	Water Bodies	Distance	Direction
1.	Bandha N	It forms the southern boundary	S
2.	Mahan N	1.46 Km	WNW
3.	Piparhawa N	2.83 Km	NE

4.	Kanchan Dam	4.25 Km	ESE
5.	Dhamar N	4.48 Km	WNW
6.	Saravn N	4.86 Km	SSE
7.	Jurni Nala	5.49 Km	NE
8.	Kanchanmuda N	5.87 Km	SW
9.	Kanchan N	7.01 km	SE
10.	Sukhar N	7.54 Km	WSW
11.	Khakhan Nala	8.30 Km	NNE
12.	Patil	8.79 km	WSW

The Committee asked the PP to submit a plan for water recharge and water conservation of the same. The Committee also asked the PP to take measures for storage of treated water and maintain the ponds in such a manner that the same can be used for agricultural purpose and cattles and asked the PP to submit the rejuvenation plan for the ponds within the lease area and adjoining the ML area.

12. The Committee deliberated on the transportation of coal. The PP submitted that the transportation of coal will take place through track haulage system and conveyor to railway siding and no road transportation is involved.

13. The Committee deliberated on the subsidence level of the said mines and asked the PP to submit the subsidence study report. The PP submitted the same via letter dated 02.07.2024.

14. The Committee is of the view that provision for washrooms in the underground mines for workers to be planned and details to be provided in EIA Report. The EIA report should also include details of STP and ETP to be provided.

15. The Committee deliberated of the disaster management measure proposed and asked the PP to prepare and submit the disaster management plan. The Committee suggested PP to align its operations with SDG's 2030 and focus on zero carbon emission.

*Based on the discussion held and the documents submitted, the EAC **recommended** the proposal for the grant of Terms of Reference (TOR) to Gondbahera Ujheni Underground*

Coal Mine (ML Area 1926.246 Ha, rated capacity of 4.12 MTPA) of MP Natural Resources Pvt Ltd., located at Village- Talwa, Devra, Tingudi, Ujheni & Majhauli, Tehsil- Deosar, District- Singrauli, State- Madhya Pradesh, under EIA Notification, 2006 (as amended) with the following specific TOR conditions in addition to generic TOR (system generated).

Specific ToR:

1) *PP has to prepare the EIA-EMP report based on the valid baseline data and thereafter conduct the Public Consultation (including public hearing), through concerned SPCB in the concerned districts as per the provisions/procedure contained in the EIA Notification, 2006 (as amended) and OM issued by MoEF&CC in this regard.*

2) *PP shall submit the EIA/EMP report after the plagiarism check using authenticated plagiarism software.*

3) *Plot the wind rose diagram using the typical meteorological year (TMY) data for the period considered for the study. The monitoring units shall be deployed in the field based on the coverage area ratio and direction of the wind. A mathematical model shall be developed for the local site rather than using the standard model available in software for both air & water quality modelling.*

4) *Impact of underground mining on the environment including underground mine air quality needs to be done by a reputed Government institute. The action plan on recommendation of study with budgetary provision needs to be submitted.*

5) *As the project involves groundwater intersection a Hydrological study shall be carried out by reputed Government Institute. Further, PP shall comply with the Ministry's OM dated 23.05.2019 and provide necessary details/studies in the EIA/EMP Report.*

6) *PP shall submit the drone video & photographs of mined area, fresh lease area to be mined and existing and proposed transportation route. The height and speed of the drone shall be so maintained to give legible images/videos. Necessary titles should be included for better understanding.*

7) *PP should submit the detailed plan in tabular format (year-wise for life of mine) for concurrent afforestation and green belt development in and around the mining lease. The PP should submit the number of saplings to be planted, area to be covered under afforestation & green belt, location of plantation, target for survival rate and budget earmarked for the afforestation & green belt development. In addition to this*

PP should show on a surface plan (5-year interval for life of mine) of suitable scale the area to be covered under afforestation & green belt clearly mentioning the latitude and longitude of the area to be covered during each 5 years. The capital and recurring expenditure to be incurred needs to be submitted. Plantation plan should be prepared in such a way that 80% of the plantation to be carried out in first 5 years and for the remaining years the proposal for gap filling. The seedling of height not less than 2 meters to be selected and accordingly cost of plantation needs to be decided. In addition to this, plantation in the safety zone at lease boundary the plantation should be planned in such a way that it should be completed within 2 years only.

8) *PP shall also provide the plan for densification of the forest land. Plantation around the conveyor belt and incline, in order to mitigate the noise pollution and air pollution needs to be planned. PP to submit the plantation plan for forest land and government land and asked the PP to start plantation activities concurrently from the 1st year onwards. In addition to this plan for creation of natural wind barrier between the mine activities/infrastructure and habitation/village needs to be planned. The budget and timeline for the same needs to be submitted.*

9) *PP should submit the quantity of surface or ground water to be used for this project. The complete water balance cycle need to be submitted. In addition to this PP should submit a detailed plan for rain water harvesting measures to be taken. The PP should submit the year wise target for reduction in consumption of the ground/surface water by developing alternative source of water through rain water harvesting measures. The capital and recurring expenditure to be incurred needs to be submitted.*

10) *Pond rejuvenation plan and plan for water recharge in the surrounding areas needs to be prepared. The capital and recurring expenditure to be incurred needs to be submitted.*

11) *PP should clearly bring out the details of the manpower to be engaged for this project with their roles /responsibilities/designations. In addition to this PP should mention the number and designation of person to be engaged under Environment Management Cell for implementation of environmental management plan (EMP). The capital and recurring expenditure to be incurred needs to be submitted.*

12) *PP should submit the year-wise, activity wise and time bound budget earmarked for EMP, occupational health surveillance, and activities proposed to address the issues raised during Public Hearing. The capital and recurring expenditure to be incurred needs to be submitted.*

13) *PP should clearly bring out that what is the specific diesel consumption ~ (Liters/Tonne of total excavation & mineral) and steps to be taken for reduction of the same. The year-wise target for reduction in the specific diesel consumption needs to be submitted. PP shall also explore the possibility of using electric/e-vehicles/cleaner fuel (LNG/CNG) based mining machinery and trucks for mining operations and transportation of men and material and submit a time bound action plan.*

14) *PP should clearly show the transport route of the mineral and protection and mitigative measures to be adopted while transporting of the mineral. The impact from the centre line of the road/conveyor on either side should be brought out clearly. Based on the above study the compensation to be paid in the event of damage to the crop and land on either side of the road/conveyor needs to be mentioned.*

15) *All the certificates viz. Involvement of Forest land, distance from the protected area, and list of flora & fauna should be duly authenticated by the Forest Department. The Certificate should bear the name, designation, official seal of the person signing the certificate and dispatch number.*

16) *Analyse biodiversity of the surrounding area and prepare wildlife management plan for the surrounding area.*

17) *PP shall submit the action plan to adhere to the Plastic Waste Management Rules 2016 and to adhere Ministry's OM dated 18/07/2022.*

18) *PP shall submit design details of all Air Pollution control equipment (APCEs) to be implemented as part of the Environment Management Plan vis-à-vis reduction in concentration of emission for each APCEs.*

19) *The PP should ensure that only NABET-accredited consultants shall be engaged for the preparation of EIA/EMP Reports. PP shall ensure that the accreditation of the consultant is valid during the collection of baseline data, preparation of EIA/EMP report and the appraisal process. The PP and consultant should submit an undertaking the information and data provided in the EIA Report and submitted to the Ministry are factually correct and the PP and consultant are fully accountable for the same.*

20) *The PP should submit the photographs of monitoring stations & sampling locations. The photograph should bear the date, time, latitude & longitude of the monitoring station/sampling location. In addition to this PP should submit the original test reports and certificates of the labs which will analyze the samples.*

21) *As the production level is above 2 MTPA, PP shall submit a plan for the installation of Silo Loading System (SLS), the transportation of coal through the belt conveyor from pit to SLS and from SLS through rail. A feasibility study needs to be conducted and the study should also clearly bring out the timeline for the installation of this setup and tentative budget.*

22) *As per the Ministry's OM dated 30.09.2020, to address the concerns raised during the Public consultation including the public hearing, the Project Proponent is required to submit the detailed activities proposed with year-wise budgetary provisions (Capital and recurring). Activities proposed shall be part of EMP.*

23) *A Social Impact Assessment Study shall also be carried out and an action plan on its recommendations may also be submitted with budgetary provisions.*

24) *Details on renewable energy (solar plant) proposed to be installed as energy conservation measures shall be submitted.*

25) *PP shall align its activities to one/few of the Sustainable Development Goals (SDG) and start working on the mission of net zero by 2050. PPs shall update the same to the EAC.*

26) *PP should provide in the EIA Report details of the statutory clearances, permissions, no objection certificates, consents etc. required for this project under various Acts, Rules and regulations and their status or estimated timeline after the grant of EC.*

27) *The budget to be earmarked for the various activities shall be decided after perusal of the Standard EC Conditions published by the Ministry.*

28) *A detailed Wild Life Conservation plan for Schedule 1 species shall be prepared for the conservation of the species. PP shall ensure that a conservation plan shall be prepared and approved by the CWLW. PP shall obtain the authenticated list of schedule-1 species from the concerned department.*

29) *PP shall submit the applications for obtaining NOC for the diversion of road/nallha/electric lines passing through the block area to the concerned authority and details shall be provided in EIA Report.*

30) *PP shall also submit an action plan pursuant to MoEFCC OM dated 29.10.2014.*

31) *PP shall provide the details of wastewater treatment facilities to be installed within its capacity, timeline and budget.*

32) *Heavy metals including other parameters in surface water quality shall be analyzed and provided in EIA Report.*

33) *PP to take mitigative measures around the schools within the lease area in order to safeguard the interest and health of students. A plan in this regard needs to be submitted. Further, as committed during the meeting to establish a new school and provide free of cost education. PP shall provide a time bound action plan for the same with budgetary provision.*

34) *PP shall provide the action plan for the safety of the local people and their cattle from the mining activities by providing fencing and natural wind barrier between the mine infrastructure and settlements etc. shall be a part of such action plan. PP shall ensure to provide right of way to local people and EMP should have provision for the same.*

35) *PP to submit the rejuvenation plan for the ponds within the lease area so that it can be used by local people.*

36) *PP shall provide the details of the bore wells in the mine lease area and compensation to be paid in case bore wells fails in future due to mining activities.*

37) *PP to submit the subsidence study report and action plan for compliance of the recommendations.*

38) *PP shall provide the details of the facilities to be provided to mine workers underground. The EIA report should also include details of STP and ETP to be provided for treatment of domestic and industrial waste water.*

39) *PP shall submit a plan for skill development of the PAF and nearby community so that they are capable enough to get employment/self-employed.*

40) *EMP should include plan for water pollution control in underground facilities also.*

41) *PP shall explore use of porta- magazine for explosives.*

42) *PP shall prepare disaster management plan considering the risk involved in underground mines.*

43) *PP shall assess the impact on the nearby by schools and explore possibility of relocation of the same.*

44) *PP is advised to implement the 'Ek Ped Maa Ke Naam' Campaign which was launched*

on 5th June 2024 on the occasion of the World Environment Day to increase the forest cover across the Country. This plantation drive is other than Green belt development. An action plan in this regard shall be submitted with budget provisions.

Agenda: 13.4

Proposal for grant of Terms of Reference (ToR) to Arjuni East Coal Mine, (Sohagpur Coal Field) with rated capacity of 1.36 MTPA in an area of 1044.819 ha located at Villages: Arjuni, Badwahi, Dhaurai & Pahadiya, Tehsil: Pali, District: Umaria, Madhya Pradesh by Ultratech Cement Limited – Regarding ToR

[Proposal No. IA/MP/CMIN/468586/2024; File No. IA-J-11011/236/2024-IA-II(M) Consultant: JM EnviroNet; NABET/EIA/2326/RA 0308 valid up to 07/08/2026]

13.4.1: The present proposal is for grant of Terms of Conditions (ToR) of Arjuni East Coal Mine Sohagpur Coal Field (Block Area: 1044.819 ha, Capacity: 1.36 MTPA), located at Arjuni, Badwahi, Dhaurai & Pahadiya, Tehsil Pali, Umaria District, Madhya Pradesh.

Ultratech Cement Limited has made an application online vide proposal no IA/MP/CMIN/468586/2024 dated 17.05.2024 along with the application in the prescribed format (Form-I) and pre-feasibility report for undertaking a detailed EIA study as per the EIA Notification, 2006 for the project mentioned above. The proposed project activity is listed at S. No. 1(a) Under Category "A" (> 500 Ha) of the schedule of the EIA Notification, 2006 and appraised at the Central Level.

13.4.2: Details of the proposal, as ascertained from the proposal documents and as revealed from the discussion held during the meeting, are given as under:

13.4.2.1: Location:

i. The project area is covered under Survey of India Topo sheet No. F44D7 (64E/7) and is bounded by the geographical coordinates ranging from latitudes 23°20'37'' N and 23°22'55" N and longitudes 81°15'35'' E to 81°17'23" E.
ii. PP reported that the General Conditions are not applicable to this project and the project does not fall under any critically polluted area.

13.4.2.2: Forest Area: PP submitted that the project involved total 498.463 ha of forest land. Forest Clearance application made vide application no FP/MP/MIN/QRY/458491/2024, Dt.15.05.2024 and the proposal for approval is under progress. The PP also submitted that there are total 5 reserved forests and 9 protected forest within 10 km radius. PP further submitted that total 29.455 ha of forest area is proposed to be diverted. The extent of forest land in the project (including safety zone and all types of forest land) is 498.463 ha. Also, the PP stated that there is no violation of FC Act.

13.4.2.3: Protected Area: PP submitted that the project is not located within 10 Km of any ESZ/ ESA/ National Park, Wildlife Sanctuary/ Biosphere Reserve/ Tiger Reserve/ Elephant Reserve/ Elephant Corridor, etc and no violation of WLP, Act is reported. However, the PP submitted that there is tiger corridor connecting Bandhavgarh National Park and Achanakmar Wildlife Sanctuary, in 7.5 km west direction. The PP further submitted that WL management plan will be prepared and will be part of the EIA EMP report. Regarding the presence of Schedule – I species and the conservation plan in that regard, the PP has submitted that a detailed study is under process and the same will be incorporated in the EIA/EMP Report.

13.4.2.4: Mining Lease: PP submitted the details of the mining lease as follows:

S. No.	Govt. Order/Notifications as the case maybe	Area (ha)
1	UltraTech Cement Limited has been declared as successful bidder in accordance with provision of rule 5(7) of the Coal Block Allocation Rules 2017 (the Rules) letter dated 27.03.2023 issued by Ministry of Coal	1044.819
2	UltraTech Ltd. have also signed the Coal Block Development & Production Agreement with the Govt. of India on 29.03.2023	1044.819
3	The block allocated by Ministry of Coal, Government of India, Allocation order No: NA-104/2/2023-NA dated 08.06.2023	1044.819
Total – 1		1044.819
4	Details of LOI (for area outside lease area)	-
Grand Total		1044.819

PP submitted that the date of Block allotment by the Nominated authority, Ministry of Coal, Govt of India is 08.06.2023 and its expiry date is 30 years from the date of Mining Lease execution & registration.

13.4.2.5: Mining Plan: PP submitted that the Mine plan & Mine Closure plan for the project were approved by the Ministry of Coal for (Rated capacity 1.36 MTPA & Peak Capacity: 2.04 MTPA, Area 1044.819Ha) vide letter no ARJUNI EAST COAL MINEMPMP043/APP00258/2023, dated 12.01.2024.

13.4.2.6: Method of Mining: The PP has submitted the following:

i) Method of Mining to be adopted shall be Mechanized Board and Pillar UG working with deployment of Continuous Miners. Board and Pillar method of working is proposed with Continuous Miner package with Shuttle car, roof bolter and feeder breaker system. Two standard-height CMs and one low height CM are proposed for operation. Wherever required, SDLs & LHDs may also be deployed for drivage of advance galleries to support mechanization. In areas or situations where it is not possible to deploy CMs (having small workable coal patches major breakdown, overhaul etc.), it is proposed to extract the coal by drilling and blasting with

LHD/semi mechanised technology.

ii) No waste is proposed to be generated as this is an underground coal mine. Soil excavated from excavations of Inclines and shaft to be used for greenbelt development. Excavated rock waste will be generated from drivage of inclines and shaft, which will be of very less quantity. This is proposed to be spread out in the infrastructure area and proposed to be used for the construction of roads & backfilling of low-lying infrastructure areas.

iii) The total geological reserve reported in the mine lease area is 131.833 MT with 54.918 MT mineable reserve. Out of the total mineable reserve of 28.30 MT are available for extraction. Percent of extraction is 21.467%.

iv) 14 seams with thickness ranging from 0.30 m to 7.56 m are workable. Grade of coal is G9 to G16. During excavation of coal from underground mining there is no generation of OB; hence, details of stripping ratio are not applicable. The gradient is around 1 in 35 to 1 in 50.

v) Life of mine is 27 years.

vi) At conceptual stage, 0.065 Million CuM of waste rock will be generated from inclines & shaft. This is proposed to be spread out in the infrastructure area and proposed to be used for construction of road & backfilling of low-lying infrastructure area.

vii) Total block area is 1044.819 ha; out of which, 231.454 ha is Govt. Land, 314.902 ha is Pvt. Land and 498.463 ha is Forest Land. At conceptual stage, 9.25 ha area to be developed under greenbelt/plantation within & around facilities. 19.045 Ha for Roads & Infrastructure, 0.700 for UG entry, 0.250 Ha for Top Soil Dump, 0.210 Ha for Settling Pond. 1015.364 ha area will remain undisturbed or mining right for underground mining.

viii) **Details of Land usage:**

i. Pre-mining

S. No.	Land Use	Within ML Area (Ha)	Outside ML Area (Ha)	Total (Ha)
1.	Agricultural Land	310.740	-	310.740
2.	Forest Land	498.463	-	498.463
3.	Waste Land	0	-	0
4.	Grazing Land	9.268	-	9.268
5.	Surface Water Bodies	2.222	-	2.222
6.	Settlements	12.983	-	12.983

S. No.	Land Use	Within ML Area (Ha)	Outside ML Area (Ha)	Total (Ha)
7.	Other (Barren Land, Roads/Other Infrastructure, Reserve, Other)	211.143	-	211.143
Total		1044.819	-	1044.819

ii. Post-Mining

S. No.	Type	Total Area	Reclaimed Area	Un-claimed Area
1.	Excavation/ Quarry Area:	-	-	-
	(a) Backfilled Areas	-	-	-
	(b) Excavated Void	0.700	0.700	-
2.	External Dump	-	-	-
3.	Safety Zone	-	-	-
4.	Road & Infrastructure	19.045	19.045	-
5.	Garland Drains	-	-	-
6.	Embankment	-	-	-
7.	Others (UG Entry, Settling Pond, Green Belt/Plantation, Undisturbed OR Mining Right For UG)	1025.074	9.71	1015.364
Total		1044.819	29.455	1015.364

ix) Details of transportation of Coal: PP submitted that the coal is proposed to be transported within the outside mining lease in the following manner:

a. In pit: From underground face via network of belt conveyors which will discharge into 3 x 150 tonner bunker to be installed at surface.

b. Surface to siding: Coal from this bunker will be loaded onto the trucks and transported to the nearest railway siding and it will be transported to the nearby Plants of UltraTech Cement Limited via covered trucks.

c. Siding to loading: Coal from this bunker storage will be loaded onto the trucks and to be transported via road to nearest road to nearest railway siding or end user or Cement Plant of UltraTech Cement Ltd. via covered trucks.

d. Proposed change in transportation means if any, give details: Two routes via road are proposed for transportation of Mineral. Both the routes (Route 1 & Route 2) touch the National Highway 43, which is around 2.5 km towards the south of the block which could be used for evacuation of coal from the mine.

x) PP reported that there are 4 nos Revenue village: Arjuni, Badwahi, Dhaurai & Pahadiya. Habitation of Village Arjuni, Badwahi, Dhaurai & Pahadiya lying within the mine block. Due to proposal of underground mining, no relocation and rehabilitation of Villages are proposed. Therefore, R&R Plan is not applicable.

xi) **Reclamation:** PP reported that reclamation plan includes the following:

1. Reclaimed external OB dump (in ha): Nil
2. Internal dump (in ha) – Nil
3. Green belt (in ha) 9.25 Ha within & around facilities.
4. Density of tree plantation (in no of plants) – 23,125 nos of saplings @2500 per Ha.
5. Void (in ha) at a depth of (in m) which is proposed to be converted into water body: Nil.

6. Others in ha (such as excavation area along ML boundary, along roads and infrastructure, embankment area and in township located outside the lease etc): 19.045 for Roads & Infrastructure, 0.700 for UG entry, 0.250 for Top Soil Dump, 0.210 Ha for Settling Pond will be reclaimed and Afforestation shall be done as per Approved Mine Closure Plan in Consultation with the Forest Dept.

13.4.2.7: Legal Issues/ Violation: PP reported that there is no legal issue/ violation w.r.t Environment (Protection) Act, ii) Air(P&CP) Act, Water (P&CP), Act, Forest Conservation Act, Wildlife Protection Act, CRZ Notification, MMDR Act, Factories Act. Further, there is no court case on the project.

13.4.2.8: Baseline Studies: PP reported that baseline data has been collected during Post Monsoon Season (Oct., to Dec., 2023) and will be included in the EIA Report.

13.4.2.9: Water Requirement: PP reported that Potable water is proposed to be sourced through borewells. In development stage, Industrial requirement is proposed to be met through borewells and in later years proposed to be met through treated water pumped from the mine. The ground water table will be intersected during the underground mine workings. Comprehensive Hydrogeological Study, Ground Water Modelling is under progress and preparation of application for obtaining permission from CGWA is under progress and will be submitted along with the EIA/EMP Report. Total water requirement is 1300 KLD, same will be sourced from ground water & mine seepage. Prior permission

for ground water abstraction & dewatering of ground water will be taken from the Central Ground Water Authority.

13.4.2.10: Waste: PP reported that details of solid and hazardous waste generation along with its mode of treatment/ disposal will be furnished as below:

S. No	Type of Waste	Source	Quantity (TPA)	Mode of Treatment	Disposal	Remarks
1.	Solid Waste (Domestic waste)	Mine Site	15	Organic Composter and Vermi-Compost Pits.	The same will be used as Manure in Greenbelt- By Road	---
2.	Plastic Waste (Packing material)	Equipment/components/spare parts packing	0.5	-	Through registered agencies - By Road	---
3.	E-waste IT equipment, electronic parts, cartridges of printer)	Laptops/Desktops/Servers/Printers/Electronics equipment.	160	-	Through registered vendors -By Road	---
4.	Batteries Waste	Caplamp-350, UPS-40 Machineries-12, FSV-3	83	-	Returned to OEM/Supplier - By Road	---
5.	Hazardous Waste (Lubricants, gear oil, engine oil and hydraulic oil)	Mine Site	45	-	Sold to the authorized CPCB recyclers through Registered Agencies - By Road	---
6.	C & D Waste (Houses, Shelter of	Mine Site	335	-	Will be utilized in road leveling and construction work- By Road	---

	Village Habitants)				inside lease or to be sent to authorized recyclers/vendors	
7.	Waste Rock	Mine Site	0.572	-	Will be utilized in road leveling, low lying area and construction work- By Road inside lease.	---

13.4.2.11: R&R Plan:

PP reported that the proposed mine site is falling in 04 Revenue Village viz. Arjuni, Badwahi, Dhaurai & Pahadiya. Habitation of Village Arjuni, Badwahi, Dhaurai & Pahadiya lying within the mine block. Due to proposal of underground mining, no relocation and rehabilitation of are proposed. Therefore, R&R Plan is not applicable.

13.4.3: Observation and deliberation of the EAC:

The PP and the NABET Accredited Consultant made a detailed presentation and the Committee deliberated on the various aspects of the project. The observations made by the EAC are as follows:

1. The proposal of Ultratech Cement Limited is for grant of Terms of Reference (To R) to Arjuni East Coal Mine, (Sohagpur Coal Field) with rated capacity of 1.36 MTPA in an area of 1044.819 ha located at Villages: Arjuni, Badwahi, Dhaurai & Pahadiya, Tehsil: Pali, District: Umaria, Madhya Pradesh.

2. The Ministry of Coal vide allocation order No: NA-104/2/2023-NA dated 08.06.2023, allotted Arjuni East Coal Mine to Ultratech Cement Limited.

3. The Mining plan and the Mine Closure plan for the capacity of 1.36 MTPC/2.04 PA (targeted/ peak), within the lease area of 1044.819 Ha, were approved by the Ministry of Coal vide letter dated 12.01.2024.

4. PP submitted that the project involved 498.463 ha of forest land. Forest Clearance application made vide application no FP/MP/MIN/QRY/458491/2024, Dt.15.05.2024 and the proposal for approval is under progress. PP further submitted that 29.455 ha of forest area is proposed for diversion i.e. to be broken up. PP also submitted that there are 5 reserved forests and 9 protected forests within a 10 km radius. The extent of forest land in the project (including the safety

zone and all types of forest land) is 498.463 ha. Also, the PP stated that there is no violation of the FC Act.

5. The Committee observed that shaft and incline and other mining infrastructure is proposed in forest land. The Committee asked why it cannot be shifted to non-forest land. PP submitted that this is the only feasible location they have found as per the mining conditions. The Committee also observed that the second transportation route proposed by PP is also through forest roads. The Committee therefore of the view that PP shall submit brief environmental analysis of 3 alternative sites for the position of shaft, incline and other infrastructure to avoid forest land. The Committee is also of the view that UG is mainly for deeper seams, but have advantage to save surface features including forest.

6. The Committee observed that PP has planned the infrastructure activities viz; Road, UG Entry, Topsoil Dump, Settling Pond etc. in the forest area. The Committee is of the view that PP should explore the possibility of making infrastructure in the Non-Forest area and study at least three such locations in the Non-Forest area to minimise the impact on forest habitation. PP vide email dated 2.07.2024 submitted the three site analysis and opted for option-1. The Committee is of the view that this needs further deliberation. Therefore, the Committee is of the view that PP shall get the study done by ISM Dhanbad/Kharagpur on whether the shaft and incline can be placed in the non-forest land or not. The study should also suggest the possible location of the same. The study should also comment on the alternative suggested by PP.

7. The Committee observed that the project does not fall under Critically Polluted Area (CPA)/ Severely Polluted Area (SPA) as per CEPI Assessment 2018. PP also submitted that Durgapur (CPA) is at a distance of 20 Km from the lease area.

8. PP submitted that the project is not located within 10 Km of any ESZ/ ESA/ National Park, Wildlife Sanctuary/ Biosphere Reserve/ Tiger Reserve/ Elephant Reserve/ Elephant Corridor, etc and no violation of WLP, Act is reported. However, the PP submitted that there is tiger corridor connecting Bandhavgarh National Park and Achanakmar Wildlife Sanctuary, in 7.5 km west direction. The PP further submitted that WL management plan will be prepared and will be part of the EIA EMP report. Regarding the presence of Schedule – I species and the conservation plan in that regard, the PP has submitted that a detailed study is under process and the same will be incorporated in the EIA/EMP Report.

9. The baseline study and the data collection were done during Post Monsoon Season (Oct., to Dec., 2023) according to the Ministry's O.M. dated 08 June 2022.

10. PP reported that there are 4 nos Revenue village: Arjuni, Badwahi, Dhaurai & Pahadiya. Habitation of Village Arjuni, Badwahi, Dhaurai & Pahadiya lying within

the mine block. Due to proposal of underground mining, no relocation and rehabilitation of Villages are proposed. Therefore, R&R Plan is not applicable.

11. PP submitted that the total water requirement is 1300 KLD, same will be sourced from groundwater & mine seepage. Prior permission for groundwater abstraction & dewatering of groundwater will be taken from the Central Ground Water Authority.

12. PP submitted that the total electricity requirement is 10 MW, 33KV/6.6kV substation is envisaged which receive power by a double circuit overhead feeder from MPPKVVCL The Committee is of the view that PP shall also explore the possibility of using renewable energy and accordingly a plan in this regard may be submitted. Further, PP shall align the project towards achieving SDGs.

13. PP submitted that the total manpower requirement for the said project will be 750. The PP submitted that preference for employment will be given to the land losers according to their qualification and capabilities. The Committee is of the view that PP shall submit a plan for skill development of the PAF and nearby community so that they are capable enough to get employment/self-employed.

14. The project cost (expected) submitted by the PP is Rs. 547 Cr.

15. Details of reserves and resources submitted by the PP are as follows:
    - Net Geological reserves – 131.833 MT
    - Mineable reserves – 54.9180 MT
    - Extractable reserves – 28.30 MT
    - Life of Mine – 27 Years

16. PP submitted that the method of mining will be adopted shall be Mechanized Board and Pillar UG working with the deployment of Continuous Miners. Board and Pillar method of working is proposed with Continuous Miner package with Shuttle car, roof bolter and feeder breaker system. Two standard-height CMs and one low-height CM are proposed for operation. Wherever required, SDLs & LHDs may also be deployed for drivage of advanced galleries to support mechanization. In areas or situations where it is not possible to deploy CMs (having small workable coal patches major breakdown, overhaul etc.), it is proposed to extract the coal by drilling and blasting with LHD/semi-mechanized technology. The Committee is of the view that what is semi-mechanised technology and PP shall explore the possibility of using electric/e-vehicles/cleaner fuel (LNG/CNG) based mining machinery and trucks for mining operations and transportation of coal. Further, subsidence report is required to be submitted.

17. The Committee noted that two routes via road are proposed for transportation of Mineral by PP. Both the routes (Route 1 & Route 2) touch the National Highway 43, which is around 2.5 km towards the south of the block, which could be used for

evacuation of coal from the mine. The Committee is of the view that since the 48% of the area of the mine falls in the Forest, PP shall avoid road transportation in the forest area.

18. The PP submitted that there is no litigation pending against the project and/ or land in which the project is proposed to be set up and has submitted an undertaking on this behalf.

19. At the conceptual stage, 0.065 Million CuM of waste rock will be generated from inclines & shafts. This is proposed to be spread out in the infrastructure area and proposed to be used for the construction of roads & backfilling of low-lying infrastructure areas. The Committee is of the view whether the same has been proposed in the mine plan or not.

*Based on the discussion held and the documents submitted the EAC **deferred** the proposal for the grant of Terms of Reference (ToR) to Arjuni East Coal Mine, (Sohagpur Coal Field) with rated capacity of 1.36 MTPA in an area of 1044.819 ha located at Villages: Arjuni, Badwahi, Dhaurai & Pahadiya, Tehsil: Pali, District: Umaria, Madhya Pradesh by Ultratech Cement Limited, for want of following information:*

1) PP shall get the study done by ISM Dhanbad/Kharagpur on whether the shaft and incline can be placed in the non-forest land or not. The study should also suggest the possible location of the same. The study should also comment on the alternatives suggested by PP.

2) PP has proposed semi-mechanised mining, PP should explain the proposed process in detail.

3) PP has proposed 0.065 Million CuM of waste rock at the conceptual stage, but the same will be generated in the initial year of mine development. Further, PP has proposed to spread out the same in the infrastructure area and proposed to be used for the construction of roads & backfilling of low-lying infrastructure areas. Whether the same has been proposed in the mine plan or not?

4) PP shall optimise the use of forest land to the bare minimum and explore possibility of locating the shaft and incline in non-forest land alternatives for avoiding forest fragmentation and ecological disturbance should be examined.

5) Since there is a road passing through the ML, PP shall submit comments of the concerned authorities.

Agenda No. 13.5

Proposal for Amendment in Environment Clearance (EC) Gondkhari Underground Coal Block (Kamptee Coalfield) with a rated capacity of 2 MTPA in an area of 862 ha located at village Gondkari , Tehsil – Kalmeshwar, Dist. – Nagpur, State – Maharashtra, by M/s Adani Power Maharashtra Limited(APML) – Regarding EC Amendment

[Online Proposal No. IA/MH/CMIN/472108/2024; File No. IA-J-11011/46/2022-IA. II(M); M/s Vardan EnviroNet,; NABET/EIA/2326/RA 0284, valid up to – 04/05/2026]

13.5.1:. The Proposal is for amendment in Environment Clearance granted Adani Power Maharashtra Limited (APML) vide letter no. IA-J-11011/46/2022-IA. II(M) dated 02.02.2024 production capacity 2.0/3.0 MTPA (Normative/Peak) in the mine lease area of 862.00 Ha located at Village Gondkhari, Tehsil Kalmeshwar, District Nagpur (Maharashtra).

13.5.2 The EAC during the deliberation observed the following:

- The Environment clearance for the project was granted under EIA Notification, 2006 vide Ministry's letter no. letter no. IA-J-11011/46/2022-IA. II(M) dated 02.02.2024 production capacity 2.0/3.0 MTPA (Normative/Peak) in the mine lease area of 862.00 Ha.

- The PP has now made an online application vide proposal no. IA/MH/CMIN/472108/2024 Dated 15.05.2024 for amendment of EC Miscellaneous Condition no. 9.9 and EC proposal particulars no. (iii) Clearance Type about area of EC dated 02.02.2024. PP has submitted the following amendment along with justification:

Specific/General Conditions	Details of Conditions	Amendment Sought	Justification
9. Miscellaneous Condition No. 9.9	9.9 No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment, Forests and Climate Change (MoEF&CC).	Change in infrastructure location within mine lease area, mainly mine entries through inclines and ventilation shaft.	**1. Change in location of land:** a. return shaft land was shifted from Khasra No. 236 private land to Khasra No. 274 private land due to issues in land availability. b. Incline land was shifted from Khasra No. 104, 106, 109 & 110 private

			land to Khasra No. 96 due to flatten the incline gradient and issues in land availability. c. There was also a technical requirement of a flatter gradient incline to be developed necessary for safe working. **2.** The acreage has also undergone changes. The proposed area was **18.00 Ha** for infrastructure use but currently it has increased by an additional 3.31 Ha i.e. **Total 21.31 Ha.** **It is noteworthy to mention here that the increased acreage shall however be used for greenbelt development only.**
EC Particulars 2. The particulars of the proposal are as below :	(iii) Clearance Type : Mining EC Under 5 Ha	Mine lease area is 862 ha, which is more than 5 ha.	Mine lease area is 862 ha, which is more than 5 ha.

13.5.3: Deliberation by the EAC in the meeting:

PP along with NABET Accredited consultant made a detailed presentation on EC conditions that require amendments along with its justification. The Committee deliberated on various aspects of the proposal submitted and the presentation made by PP. After detailed deliberation, the Committee observed the following:

The PP applied to sought amendment in EC dated 02.02.2024 to change the i) location of Air return shaft land from Khasra No. 236 private land to Khasra No. 274 private land due to issues in land availability, ii) Incline land was shifted from Khasra No. 104, 106, 109 & 110 private land to Khasra No. 96 due to flatten the incline gradient and issues in land availability and iii) change in infrastructure area from 18.0 Ha to 21.31 Ha. The Committee observed that recently EC was granted why these aspects were not considered earlier, in this regard PP submitted that initially there was no dispute in land

acquisition but now one of the member of the family is not agreed for the same, due to this shaft location is proposed to be changed.

PP further submitted that the location of the incline mouth and associated infrastructure has been shifted with a view to make the gradient of the incline milder/flatter (from 12° to 8°) for deploying tyre mounted trackless equipment for men/material transport. The location of the ventilation shaft has also been changed slightly accordingly. However, there are no other changes in UG layout of any seam. This modification will enable the deployment of safer and advanced mode of men/material transport system with FSVs/ Men transport in the mine. The Committee asked whether the vehicles used are of electric or diesel operated. PP submitted that only electric operated vehicle will be used.

PP further submitted that the proposed land use has also been increased to 21.31 ha (from 18.0 ha as proposed in the Mining Plan), 3.31 ha will be used to develop the green belt. The Committee observed that change in land use is in undisturbed area which is reducing from 694.47 Ha to 691.72 Ha i.e. 2.75 Ha and the increase in Agricultural land use area is from 21.3 Ha to 18.0 Ha i.e. (3.3 Ha) of which 3.3 Ha will be put for plantation. The Committee observed that green belt area is increasing from 2.0 Ha to 5.3 Ha and the Undisturbed/Mining Right for UG is reducing from 844.0 Ha to 840.7 Ha.

The PP also submitted that in EC Particulars Clearance type is mentioned as Mining EC Under 5 Ha. The Committee observed that some part of EC is system generated information and it should be as Fresh EC.

The Committee also discussed on the requirement of modification in the already approved mining plan for these changes. In this regard, PP submitted that the board approval letter dated 11.04.2024 for these changes wherein it has done as per clause 1.3 (B) of OM dated 29.05.2020 of M/o Coal. The Committee is of the view that these changes seems to be not covered under minor changes and asked to get it clarified from M/o Coal. The Member Secretary confirmed the same from M/o Coal and it was informed that these are not covered as per above clause. The Committee took it seriously and is of the view that PP and consultant should get it clarified before submitting the proposal to MoEF&CC. The Committee observed that details provided in covering letter and brief submitted have some errors. The Committee therefore, ***returned the proposal in present form*** and proposal may be considered only after filling the form, rectifying the errors as pointed above and submit revised approved mining plan incorporating the changes proposed in the amendment.

Agenda no 13.6

Proposal for grant of Terms of Reference (ToR) of Gare Palma Sector-I Coal Mine (ML Area 3020.0 ha, rated capacity of 15.0 MTPA) of M/s. Jindal Power Ltd., located at Villages: Aamgaon, Budiya, Bagbadi, Dhaurabhatha, Khuruslenga, Jharna, Libara, Mahloi, Jhinkabahal, Raipara, Samkera, Tilaipara, Bijna, Tehsil: Tamnar, District: Raigarh, Chhattisgarh – Terms of Reference (ToR) – Regarding.

[Proposal No. IA/CG/CMIN/476273/2024; File No. J11015/40/2024-IA-II(M)); Consultant: J.M. Environet Pvt. Ltd.; Accreditation No. NABET/EIA/2326/RA 0308]

13.6.1: The present proposal is for grant of Terms of Conditions (ToR) for M/s. Jindal Power Limited having mine lease area 3020.0 ha with production capacity 15.0 MTPA, located at Villages: Aamgaon, Budiya, Bagbadi, Dhaurabhatha, Khuruslenga, Jharna, Libara, Mahloi, Jhinkabahal, Raipara, Samkera, Tilaipara, Bijna, Tehsil: Tamnar, District: Raigarh, Chhattisgarh. M/s. Jindal Power Limited has made an online application vide proposal no. IA/CG/CMIN/476273/2024 on 07.06.2024 along with the application in the prescribed format (Form – I), copy of pre-feasibility report and proposed ToRs for undertaking detailed EIA study as per EIA Notification, 2006 for the project mentioned above.

13.6.2: Details of the proposal, as ascertained from the proposal documents and as revealed from the discussion held during the meeting, are given as under:

13.6.2.1: Location:

i. The project area is covered under Survey of India Toposheet No. F44L8 (64N/8), F44L12 (64N/12) and is bounded by the geographical coordinates ranging from Latitude: 22°04'0.09"N to 22°07'0.11"N and Longitudes 83°27'28.51"E to 83°33'47.74"E.

ii. PP reported that the General Conditions are not applicable on this project and the project does not fall under any critically polluted area.

13.6.2.2: Forest Area: PP submitted that the project involves total 119.277 Ha of forestland for which application to obtain approval has already been filed vide proposal no. FP/CG/MIN/QRY/478550/2024 dated 03.06.2024. The PP submitted that there is 77.093 Ha of broken forestland and there is no violation of FC Act.

13.6.2.3: Protected Area: The PP reported that the project is located at a distance of approx. 6.4 kms from Charmar Jingol Elephant Corridor and there are total 17 nos of protected forests and 12 nos of reserve forests in the lease area. PP further reported the there is no violation of WLP Act. PP also submitted that wildlife study is under process to assess the wildlife issues involved and accordingly will prepare the Wildlife Management Plan.

13.6.2.4: Mining Lease: PP submitted that the mine lease was allotted via allocation

order letter no. NA-104/14/2023-NA dated 08.06.2023 for the area of 3020 Ha. Expiry date of the allocation order is 16.11.2077.

13.6.2.5: Mining Plan: The PP submitted that the mining plan & mine closure plan for the project for 15.0 MTPA (normative), area 3020.0 Ha has been submitted to Ministry of Coal for approval. The approval of Mining Plan is under process.

13.6.2.6: Method of Mining: The PP submitted the following:

xiv) Method of mining to be adopted shall be Opencast. The Capacity of the mine applied for Normative capacity is 15.0 MTPA as per proposed mining plan.

xv) Excavation of Coal will be done by opencast mining with surface miner. The entire waste generated from the pit will be handled by conventional shovel dumper system.

xvi) Total geological reserve reported in the mine lease area is 1097.64 MT with 332.03 MT is mineable reserve. Out of total mineable reserves of 332.03 MT, 301.80 MT is available for extraction. The percentage of extraction is 30.55 %.

xvii) There are 19 workable seams in the block. The thickness of coal seam varies from 0.30 m to 17.16 m. The grade of coal is avg. G13, and gradient is 20 - 40.

xviii) Life of mine is 27 years.

xix) Coal is proposed to be mined by surface miners as the seam is almost flat with 2 degrees to 4 degrees' dip. Hence, most of the coal does not require drilling and blasting except the corners and edges which are beyond the reach of surface miner. Drilling & Blasting will also be required in overburden benches.

xx) The waste/OB handling is with shovel/dumper combination.

xxi) The project has 01 external OB dumps in an area of 841.866 ha with 120 m height and 662.16 Mbcm of OB. 01 internal OB in an area of 1163.81 ha with 1483.81 Mbcm of OB is envisaged in the project.

xxii) Total quarry area is 1227.94 ha out of which backfilling will be done in 1163.81 ha while final mine void will be created in an area of 64.13 ha with a depth of 295 m. Backfilled quarry area of 1163.81 ha shall be reclaimed with plantation. Final mine void is proposed for UG mining entries subject to detailed planning

of the same.

xxiii) **Details of Land usage**

A. Pre-mining:

S. No.	Land Use	Within ML Area (ha)	Outside ML Area (ha)	Total
1.	Agricultural Land	2,666.843	-	2,666.843
2.	Forest land	119.277	-	119.277
3.	Waste land	-	-	-
4.	Grazing land	23.86	-	23.86
5.	Surface Water Bodies	19.68	-	19.68
6.	Settlements	35.53	-	35.53
7.	Other (Road & Other Govt. land)	154.81	-	154.81
	Total	**3020**	**-**	**3020**

B. Land Use During Mining

S. No.	Particular	Plantation	Water Body	Public/ Company Use	Undisturbed	Total
1.	External OB	841.866	-	-	-	841.866
2.	Top soil Dump	-	-	-	-	-
3.	Excavation	-	-	-	-	1227.94
	Backfilled area	1163.81	-	-	-	1163.81
	Excavated Void	-	-	64.13	-	64.13
4.	Roads	-	-	-	-	-
5.	Built up areas	-	-	-	-	-
6.	Greenbelt	32.74	-	-	-	32.74
7.	Safety Zone	-	-	-	-	-

8.	Plantation (apart from greenbelt)	-	-	-	-	-
9.	Other (Settling Pond, Road Diversion, Road & Infrastructure Garland Drains, Embankment)	87.428	-	48.541	-	135.969
10.	Undisturbed area	-	-	-	781.485	781.485
Total		2125.844		112.671	781.485	3020

C. Post Mining

(Area: In Hectare)

S. No.	Description	Total Area	Reclaimed Area	Un-reclaimed area
1.	Excavation/Quarry Area:	**1227.94**	-	-
	(a) Backfilled Areas	1163.81	1163.81	-
	(b) Excavated Void	64.13	-	64.13
2.	External Dump	841.866	841.866	-
3.	Safety zone	-	-	-
4.	Road and Infrastructure	93.051	65.311	27.74
5.	Garland drains	18.13	18.13	-
6.	Embankment	0.547	0.547	-
7.	Others (Settling Pond, Road Diversion, Greenbelt, Undisturbed area)	838.466	36.18	802.286
Total		**3020**	**2125.844**	**894.156**

xxiv) **Details of transportation of Coal:** The coal is proposed to transport

within and the outside mining lease in the following manner:

(i) In pit: Dumpers will dump on to hoppers and coal will be fed to conveyors for transportation to surface Coal Handling Plant

(ii) Surface to siding: Conveyor.

(iii) Siding to loading: By Mechanical means

(iv) Quantity being transported by Road/Rail/conveyor/ropeway: 15.00 Million TPA coal will be produced from the proposed block which will transported to Thermal Power Plant of M/s. Jindal Power Ltd. located at Tamnar, Raigarh, Chhattisgarh via pipe conveyor and surplus coal will be sold to the consumer after fulfilling the plant requirement through proposed railway siding.

xxv) Detailed Status of Progressive Mining Closure Plan is not applicable as it is a Greenfield project.

xxvi) **Details of villages/habitation in mine lease area**: There are 8 no. of villages within the mining lease area. All 8 villages are proposed to be rehabilitated. Rehabilitation is yet to start.

xxvii) **Acquisition:** The land is yet to be acquired.

xxviii) **Reclamation:** Afforestation shall be done progressively covering an area of: 2125.844 ha at the end of mining. This will include:

i. Afforestation shall be done covering an area of 841.866 ha. Internal dump (in ha): 1163.81

ii. Greenbelt (in ha): 32.74

iii. Plantation will be done covering 3.44 ha area of settling pond 65.311 ha area of Road & Infrastructure 18.13 ha area of garland drains and 0.547 ha embankment.

iv. Density of tree plantation (in no of plants): 53,14,610 no. of saplings @ 2500/ha.

v. Void (in ha) at a depth of (in m) which is proposed to be converted into water body: The void of 64.13 ha at a depth of 295 m will be utilized as passage for Underground mining entry for exploring the feasibility of underground

mining based on the results of scientific study proposed.

13.3.2.7: Legal issues/ Violation: PP reported that there is no legal issue/ violation w.r.t Environment (Protection) Act, ii) Air(P&CP) Act, Water (P&CP), Act, Forest Conservation Act, Wildlife Protection Act, CRZ Notification, MMDR Act, Factories Act. Further, there is no court case on the project.

13.3.2.8: Baseline Studies: PP submitted that baseline monitoring has already been done during post monsoon period March 2024-May 2024. PP reported that the Laboratory involved in analysis of water, air, noise & soil quality data, etc. has been accredited by the NABL bearing the Certificate of Accreditation No. TC-6821 and valid till 23.05.2025.

13.3.2.9: Water requirement: The PP reported that there is groundwater intersection involved, for which NoC from CGWA will be obtained later. PP reported that sources of water will be groundwater and bore well. Further, the water requirement reported by the PP during construction period is 650 KLD (for domestic and construction activity) and during operation phase 1550 KLD (for mining activity, sprinkling, and domestic purpose). PP also, reported that Koledega Nala diversion is proposed.

13.3.2.10: Solid and Hazardous Waste: PP submitted the following details of solid and hazardous waste generation along with its mode of treatment/ disposal:

S. No	Type of Waste	Source	Quantity (TPA)	Mode of Treatment	Disposal	Remarks
1.	Solid Waste (Domestic waste)	Mine Site	18	Organic Composter and Vermi-Compost Pits.	The same will be used as Manure in Greenbelt- By Road	
2.	Plastic Waste (Packing material)	Equipment/ components/ spare parts packing	2	-	Through registered agencies - By Road	
3.	E-waste IT equipment, electronic parts etc.)	Laptops/Desktops/Servers/Printers/Electronics equipment.	9.5	-	Through registered vendors -By Road	
4.	Batteries Waste	Caplamp-350, UPS-40	37	-	Returned to OEM/Supplier - By	

		Machineries-12, FSV-3			Road	
5.	Hazardous Waste (Lubricants, used oil)	Mine Site	56	-	Sold to the authorized CPCB recyclers through Registered Agencies - By Road	
6.	C & D Waste (Houses, Shelter of Village Habitants)	Mine Site	9120	-	Will be utilized in road leveling and construction work- By Road	
7.	Over Burden	Mine Site	207720000	-	Waste will be utilized for backfilling and external dumping which will be rehabilitated by plantation.	

13.3.2.11: R&R Plan: The PP submitted that, The land of block area i.e. 3020 Ha falls in revenue boundary of 13 villages namely Aamgaon, Budiya, Bagbadi, Dhaurabhatha, Khuruslenga, Jharna, Libara, Mahloi, Jhinkabahal, Raipara, Samkera, Tilaipara and Bijna. Habitation of 8 villages falls within the block area namely Budiya, Bagbadi, Mahloi, Tilaipara/ Ravanguda, Bijna, Jharna, Khuruslenga & Raipara which will be shifted in due course of mining as per applicable laws after taking prior approval from Competent Authority. Habitation of remaining 5 villages falls outside the block area. Total no. of Project Affected Families are 4065, Project Displaced Families are 1824. The rehabilitation package provided for the displaced persons would be in conformity with the Govt. of India norms and as per the guidelines of the Central & State Govt. Detailed R&R plan will be prepared.

13.3.3: Observations and deliberations of the EAC:

PP and the NABET Accredited Consultant made a detailed presentation and the Committee deliberated on the various aspects of the project including the method of mining, dumping, transportation, forest area etc. The observations made by the EAC are as follows:

1) The proposal of M/s. Jindal Power Ltd. is for grant of Terms of Reference (ToR) for the production of 15.0 MTPA from Gare Palma Sector-I Coal Mine in ML Area 3020.0 ha, located at Villages: Aamgaon, Budiya, Bagbadi, Dhaurabhatha, Khuruslenga,

Jharna, Libara, Mahloi, Jhinkabahal, Raipara, Samkera, Tilaipara, Bijna, Tehsil: Tamnar, District: Raigarh, Chhattisgarh.

2) The Ministry of Coal vide Order No. NA-104/14/2023-NA dated 08.06.2023 issued an order regarding the allocation of mine lease. The Committee deliberated on the mine lease area of this particular block and observed that the mine plan is not yet approved and to ascertain the lease details asked the PP to submit lease boundary certificate demarked by the CMPDI. PP in this regard submitted the certified plan by CMPDI (letter dated 18.06.2024) for the block boundary of Gare Palma Sector-I Coal Block vide letter dated 18.06.2024.

3) The Committee deliberated on the approved Mine Plan and Mine Closure Plan. The PP submitted that the same has been submitted to the Ministry of Coal and is in the approval stage. The Committee asked the PP to apply again for TOR with the approved mine plan and mine closure plan after incorporating the changes in the Mine plan as suggested in ongoing EAC.

4) The Committee deliberated on the forest area involved in the lease area. PP submitted that the project involves total 119.277 Ha of forestland for which application to obtain approval has already been filed vide proposal no. FP/CG/MIN/QRY/478550/2024 dated 03.06.2024. PP submitted that the forest land proposed to be broken up is 77.093 Ha (revenue forest area) and there is no violation of FC Act. PP submitted that there are total 17 nos of protected forests and 12 nos of reserve forests in the lease area.

5) PP submitted that No National Park, Wild Life Sanctuaries, Biosphere Reserves, Tiger Reserves etc. within 10 km radius study area. However, Charmar-Jingol Elephant Corridor (~6.4 km in WSW direction). PP further reported the there is no violation of WLP Act. PP also submitted that wildlife study is under process to assess the wildlife issues involved and accordingly will prepare the Wildlife Management Plan.

6) PP reported that the project does not fall under any critically polluted area. The Committee observed that Raigarh district is not in list of CPA/SPA assessment made by CPCB in 2018.

7) Committee that baseline monitoring has already been done during post monsoon period March 2024-May 2024 which is in line with MoEF&CC OM dated 8.06.2022.

8) Committee observed that there is groundwater intersection involved, for which PP reported that NoC from CGWA will be obtained later. The sources of water will be groundwater and bore well. Further, the water requirement reported by the PP during construction period is 650 KLD (for domestic and construction activity) and during operation phase 1550 KLD (for mining activity, sprinkling, and domestic purpose). The Committee is of the view that PP shall optimise the water requirement to the extent possible and comply with MoEF&CC OM dated 26.05.2019.

9) PP reported that Koledega Nala is proposed to be diverted along the southern boundary of the block in the 10th year. The nallah Diversion will be implemented subject to approval from MoEF&CC and Water Resources Department of the State of Chhattisgarh. The committee was of the view that this diversion can be considered at a later stage.

10) The Committee deliberated on the plantation activities by the PP in this particular project. PP submitted that a greenbelt will be developed over an area of 32.74 Ha along 7.5m periphery of the mine. Further, PP submitted that plantation will be done covering 1163.81 Ha backfilled area, 841.866 Ha area of external dump. 3.44 Ha area of settling pond, 65.311 Ha area of road and infrastructure. 18.13 Ha area of garland drains and 0.547 Ha of embankment. PP submitted that at the conceptual stage, total 2125.844 Ha area will be covered under plantation and density of plantation would be 2500 trees per Ha. PP submitted that local and fruit bearing species will be planted in consultation with Local Forest Department. PP also submitted that plantation will be carried out along the periphery and around office, service areas, rest shelters, CHP etc. in order to mitigate the air pollution and noise pollution. The Committee asked the PP to plant at least 1 Lakh plants out of which 50,000 shall be Sal plantation and this plantation programmes should start immediately in this monsoon itself. The Committee also asked the PP to submit the concurrent plantation plan.

11) The Committee deliberated on the habitation and land uses in the lease area. The PP submitted that there are total 13 villages allocated in the block area, out of which total 8 villages will be shifted in due course of mining according to R&R Policy. PP also submitted that there are total 4065 project affected families and total 1824 project displaced families. PP submitted that the rehabilitation package provided for the displaced persons would be in conformity with the GoI norms and as per the guidelines of the Central & State Govt. PP submitted that accordingly the R&R plan will be prepared. The Committee also deliberated on the presence of schools in the

block area. PP submitted that there are total 9 schools present in the block area and all of these will be shifted to carry out the mining activities. The Committee asked the PP to submit the livelihood plan along with the compensation of the project displaced and project affected families. The Committee also asked the PP to obtain a health report of the people residing in the area from a reputed health institution (preferably AIIMS or a government institute having facilities for occupational health) and submit the same. Detailed of prevalent disease in the area be taken from local state health authorities. The Committee also asked to submit the social impact assessment study report conducted by some reputed institution.

12) The Committee deliberated on the land use pattern of the block area. The PP submitted the proposed during mining and post mining land use. The Committee asked the PP to convert the 64.13 Ha void into a water body, which the PP has proposed for UG mining entries otherwise. The Committee observed that proposed mine plan is for opencast only and therefore at this stage the void shall be converted into water body. Further, PP to reclaim all the agricultural land to the best fit for the agricultural purpose, post mining.

13) The Committee observed that there are multiple water bodies within the lease area and Kelo River is flowing through the boundary of the block area. The Committee deliberated that no nallah/ stream/ river diversion will be allowed at this stage and accordingly the mine plan shall be changed. Also, in future, if there is any diversion proposed, then the prior approval of ministry shall be obtained. The Committee asked the PP to get the Hydrological study done from IIT Dhanbad/ some reputed government institution and submit the same.

14) The Committee deliberated on the pollution measures and is of the view that PP is supposed to install at least 3 ambient monitoring devices in the block area and meterological stations.

15) The Committee deliberated on the carrying capacity of the block area and asked the PP to submit carrying capacity study report conducted by some reputed institution through state pollution control board which should also include this block and envisaged future industries/ mining operations.

16) The Committee is of the view that while giving TOR for the said project, a sub-committee shall visit the site for inspection.

17) The Committee observed that the mine plan is in draft stage and asked the PP what if there would be any change at the time of final approval. The Member Secretary informed that an EDS in this regard was also raised. The Committee is of the view that PP shall get the mining plan approved considering the above suggestions and accordingly submit the revised form. The Committee therefore, ***returned the proposal in present form***.

Agenda No. 13.7

Environment Clearance of Gare Palma Sector II Coal Mine Project of 23.6 MTPA Capacity (22.0 MTPA Opencast + 1.6 MTPA Underground) within the mining lease area of 2583.487 Ha of Maharashtra State Power Generation Company Ltd (MAHAGENCO) located at Thili Rampur, Kunjemura, Gare, Saraitola, Murogaon, Radopali, Pata, Chitwahi, Dholnara, JhinkaBahal, Dolesara, Bhalumura, Sarasmal and Libra villages, Tamnar Tehsil, Raigarh District, Chhattisgarh State – For Environmental Clearance – Reg.

[Online Proposal No. IA/CG/CMIN/466451/2024; File No. J-11015/72/2016-IA.II(M); Consultant: M/s Vardan EnviroNet,; NABET/EIA/2326/RA 0284, valid up to – 04/05/2026]

13.1.1: The proposal is for Environment Clearance of Gare Palma Sector II Coal Mine project of 23.6 MTPA Capacity (22.0 MTPA opencast + 1.6 MTPA Underground) within the mining lease area of 2583.487 Ha of M/s Maharashtra State Power Generation Company Ltd located at Thili Rampur, Kunjemura, Gare, Saraitola, Muregaon, Radopali, Pata, Chitwahi, Dholnara, Bhalumura, Sarasmal and Libra villages, Tamnar Tehsil, Raigarh District, Chhattisgarh State.

13.2.2: Location: The project area is covered under Survey of India Topo Sheet No. F44L7, F44L8, F44L11 and F44L12 and is bounded by the geographical coordinates ranging from 22°06'24.215"N to 22°10'49.891"N and longitudes 83°26'15.433"E to 83°31'12.632"E.

Project does not fall in the Critically Polluted Area (CPA), where the MoEF&CC vide is OM dated 13th January, 2010 has imposed moratorium on grant of Environment Clearance.

13.2.2.1: Mining Lease: PP submitted that the block area has been acquired on 31.08.2015 vide allotment order no. 103/30/2015/NA for a total area of 2583.487 Ha.

13.2.2.2: Forest Area: PP submitted that the project involves 214.869 Ha of Forest Land. The Stage – II FC clearance for the same was obtained vide letter no. 8-06/2022-FC. The PP submitted that there is no broken forest land and there is no violation of FC Act.

13.2.2.3: Protected Area: PP submitted that the project is not located within 10 KM of any ESZ/ ESA/ national park/ wildlife sanctuary/ biosphere reserve/ tiger reserve/

elephant reserve/tiger corridor/elephant corridor etc. PP submitted that there is no violation of WLP Act. PP also submitted that there is presence of Schedule – I species in the concerned area and Wildlife Management Plan for the conservation of the same has been prepared and the same has been approved by PCCF, WL vide letter no. 494/12, dated 20.01.2021.

13.2.2.4: Mining Plan & Method of Mining: The mining plan & mine closure plan for the project was approved for (capacity 23.60 MTPA, Area - 2583.48 Ha area) vide letter no. 34011/16/2016-CPAM, dated 12.08.2016. PP submitted that it is an integrated project.

(i) Method of Mining to be adopted shall be Opencast cum Underground. The Capacity of the mine applied for Normative capacity peak capacity as per approved mining plan is 23.60 MTPA (OC-22.0MTPA + UG-1.6 MTPA).

(ii) Excavation of Coal is through Surface Miner (Surface miners will be used for cutting the coal precisely and selectively). Mining of thin coal by surface miners and ripping has also been now investigated by the RQP besides the drilling/ blasting considered earlier and it has been concluded that the coal mining will be carried out totally by Surface Miners. An equipment system which is capable of dealing many layers at a time (flexibility of operations) has been recommended as shovel dumper combination.

(iii) Total geological reserve reported in the mine lease area is 1059.298 MT with 781.78 MT (582.292 MT (Opencast) + 199.393 (Underground) mineable reserve. Out of total mineable reserve of 781.78 MT, 655.15 MT (553.17 MT (Opencast + 101.97 (Underground) are available for extraction. The percentage of extraction is (OC- 75.15% and UG- 31.55%).

(iv) 31 seams with thickness ranging from 0.05 m – 8.39 m are workable. Grade of coal is G3 to G17; stripping ratio 4.99:1.

(v) Life of mine is total 77 years (Life of OC mine - 29 years and UG mine - 69 years, including 3 years of construction period, starting from 12th year onwards).

(vi) The surface dump proposed will be located over coal bearing area in the southern portion of the west pit area and the dump will be spread over an area 380 ha by 5th year end and will accommodate 197.50 mcum (L) OB waste up to that year. The Dumping will start from 1st year and continue up to 6th year however the exclusive dumping into this surface dump will be up to 5th year after which part of the OB will be backfilled in 6th year. The full height of the dump will be 90m in 6th year. External OB Dumps shall be re-handled and backfilled in 29th 32nd year. The OB from the current mining operations shall be backfilled from 6th year onwards. An internal OB in an area of 2440.55 ha with 2761.12Mm^3 of OB is envisaged in the project.

(vii) The total quarry area is 2440.55ha out of which backfilling will be done in 2440.55 ha while final mine void will be created in an area of 0 ha with a depth of 0 m. Backfilled quarry area of 2440.55 ha shall be reclaimed with plantation. Final mine void will be converted into water body. There will be no final void, only 5 ha of settling pond will be converted into water body.

(viii)Details of Land usage:

Pre-mining:

S. No.	Land Use	Within ML Area (ha)	Outside ML Area (ha)	Total
1.	Agricultural Land	2002.48	Nil	2002.48
2.	Forest land	214.869	Nil	214.869
3.	Waste Land	Nil	Nil	Nil
4.	Grazing Land	Nil	Nil	Nil
5.	Surface Water Bodies	56.17	Nil	56.17
6.	Settlements	79.18	Nil	79.18
7.	Other (Roads / Other infrastructure)	230.781	Nil	230.781

Post Mining:

S.N.	Land use During Mining	Plantation	Water Body	Public Use	Undisturbed	TOTAL
1.	External OB Dump	0	0	0	0	0
2.	Top soil Dump	0	0	0	0	0
3.	Excavation	2440.55	0	0	0	2440.55
4.	Roads	0	0	30.30	0	30.30
5.	Built up area	0	0	50.94	0	50.94
6.	Green Belt	36.07	0	0	0	36.07
7.	Undisturbed Area (Under Kelo River)	0	0	0	15.42	15.42
8	Bund			5.2		5.2
9	Settling Pond	0	5			5.0
	TOTAL	2476.62	5	86. 44	15.42	2583.48

(ix) **Acquisition:** Out of the total lease area of 2583.48 Ha, Land acquisition process shall be commenced after execution of mine lease deed.

13.2.2.5: Transportation of Coal: The PP submitted that the coal is proposed to transport within the outside mining lease area in the following manner:

(i) In pit: Dumpers (By road)

(ii) Surface to siding: Dumpers/conveyor

(iii) Siding to loading: Rapid loading system

(iv) Quantity being transported by Road/Rail/conveyer/ropeway: 23.60 MTPA

(v) There are no proposed changes in transportation means.

13.2.2.6: Legal Issues/ Violation: PP reported that there is no legal issue/violation wr.t i) Environment(Protection) Act, ii) Air(P&CP) Act, Water (P&CP), Act, Forest Conservation Act, WildlifeProtection Act, CRZ Notification, MMDR Act, Factories Act. Further, there is no court case on the project.

13.2.2.7: Reclamation Plan: PP submitted that the reclamation plan includes afforestation, which shall be done progressively covering an area of: 2476.62 ha at the end of mining. This will include:

1. External dump 194.76 Ha.
2. Plantation in backfilled area 2025.77 Ha (in new eia)
3. Safety zone and greenbelt 36.07 ha (in new eia)
4. Density of tree plantation (in no. of plants): 2500/Ha

13.2.2.8: R&R: PP submitted that there are total 14 villages within the mining lease area. Detailed R & R studies has been carried out by reputed institute and suggestions made by the institute meeting the "The Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation & Resettlement Act, 2013 of Central government or Chhattisgarh State Model Rehabilitation Policy 2007.

13.2.2.9: Baseline Data: PP submitted that the environmental baseline data was generated in the pre-monsoon from 25th March to 15th June 2024. The AAQ parameters for 25 Locations (min and max) values are [PM_{10} (37.50 to 82.70 µg/m^3); $PM_{2.5}$ (18.50 to 57.60 µg/m^3); SO_2 (4.40 to 25.40 µg/m^3); NOx (7.80 to 38.90 µg/m^3), CO (0.30 to 1.08 mg/m^3)]. Incremental GLC Level is PM10 =11.91805µg/m^3 (Level at 0 km in East Direction); SO2 = 0.9931µg/m^3 (Level at 0 km in East Direction); NOx = 1.4401 µg/m^3 (Level at 0 km in East Direction) and CO = 0.0000397 mg/m^3 (Level at 0 km in East Direction). Ground water quality for 22 Locations is [pH: 6.53 to 7.50; Total Hardness: 92 mg/l to 338 mg/l., Chlorides: 25.32 mg/l to a maximum of 72.44 mg/l, Fluoride: 0.21 mg/l to 0.70 mg/l]. Surface water quality for 22 Locations is [pH: 7.48 to 7.90 ; DO: 5.9 mg/l to 6.4 mg/l; BOD: 11.00 mg/l to 21.00 mg/l. and COD: 41 mg/l to 68 mg/l]. Noise levels Leq (Day and Night) are 32.20 to 72.50 dB for the daytime and 30.20 to 60.00 dB for the Night time. PP reported that the Laboratory involved in analysis of water, air, noise & soil quality data, etc. has been accredited by the NABL/ MoEF&CC bearing the Certificate of Accreditation No. NABET/EIA/2225/RA 0278 and valid up to 26/09/2025. Traffic study has been

conducted at Milupara to Tamnar PWD road which adjacent from the mine site. Transportation of mineral will be done 100% by road up to siding. Existing PCU is 683 PCU/hr on Milupara to Tamnar PWD road and existing level of service (LOS) is C. PCU load after proposed project will be 683 (Existing) + 410 (Additional) PCU/hr and level of service (LOS) will be D. The level of service will "D" after including additional traffic due to proposed project. Based on the survey conducted, the project site does not have any species which fall under the Schedule I of The Indian Wildlife (Protection) Act, 1972 or under threatened category of The IUCN Red List of Threatened Species. But within the 10 km radius of project site (in Reserve Forest patches) three Schedule-I species were recorded as per the Forest records. Wildlife conservation plan has been approved by PCCF, WL vide letter no. 494/12, dated 20.01.2021.

13.2.2.10: Waste: The details of solid and hazardous waste generation along with its mode oftreatment/disposal is furnished as below:

S. No.	Type of Waste	Source	Quantity (TPA)	Mode of Treatment	Disposal	Remarks
1	OB waste	Mining	2761 Mcum	Re-handling	Refilling of mine out area	Solid waste
2	Domestic waste	Workers & Admin office	3.76	Re-cycling	Food waste composter	
3	Sludge	STP	1.632	Re-cycling	Manure	
4	Used Oil	Mines Workshop	2224.82	Re-cycling	Through authorized Vendors/Recycler	Hazardous waste

13.2.2.11: Water Requirement: PP reported that the water requirement will be 2785 KLD and the source of water will be surface water, groundwater and mine sump water. PP submitted that there will be groundwater intersection involved and NOC for abstraction of ground water has been obtained from CGWA, new Delhi, vide letter no. CGWA/NOC/MIN/ORIG/2020/7943 and valid up to 05th May 2022 to dt. 04th May, 2022, for 1454 KLD. Renewal application has already been submitted at online portal (NOCAP) CGWA portal.

13.2.2.12: Plantation: Proposed greenbelt will be developed in 36.07 Ha. A 7.5 m wide greenbelt, consisting of at least 3 tiers around mine boundary will be developed as greenbelt and green cover as per CPCB/MoEF&CC. Local and native species will be planted with a density of 2500 trees per hectare. Total no. of 5641500 saplings in 2256.60 ha area will be planted and nurtured in hectares in 32 years.

13.2.2.13: Public Consultation: The PP submitted that PH notification was published in local and english newspaper (Dainik Bhaskar & Times of India) on 25.08.2019 and public consultation took place on 27.09.2019 at the Government Primary school ground of

Dolesara village in Raigarh district. Mr. R.A Kuruvanshi (ADM) was the presiding officer present at the public consultation. The major issues involved in the PH were land, employment, environment, health check-up, education etc.

Action plan as per MoEF&CC O.M. dated 30/09/2020

Sl No.	**Physical activity and action plan**		Total (Expenditure) (in Rs Cr)
	Name of the Activity Physical Targets	Name of the ActivityPhysical Targets	
1.1	Dolesara Water drinking facility in the village	(Drinking Water Filtration with purification and door to door distribution Project through Women Self Help Group)	0.38
1.2	Dolesara Provide school bus facility	School transportation Facility will be provided to the students, doing study in schools within 10 Km radius. (for 05 years)	0.60
1.3	Dolesara To provide sports facility	Kabaddi is a famous game among youths, a Kabaddi mat will be provided to the village team. Development of open Gym and sports item will be provided to school.	0.10
1.4	To provide food for poor children	Supplentary Nutritious food mixture will be provided to the children age from 3-6 year. (for 05 years) - approx 60 children in 03 Anganwadis X 180 days in a year X 05 years = 54000 @ 20/- per day	0.11
1.5	To provide Training centre for business purpose	Construction of Training Center Building ((1 hall, store room, washrooms with water facility)	0.12
1.61	Establishing sweing Center	Establising Tailoring Training center for women. Train 40 students every year (05 years project)	0.10
1.62	Masroom Training	Provide training for Mashroom production - 50 Women every year (for 05 years)	0.025
1.7	To provide school teacher for primary School	Provide 03 Primary teachers for five years	0.18

1.9	To provide Toilet facility in school	Renovation of Toilets and urinals of Primary and Middle School	0.05
2.1	To Provide Water facility	Construction of water Tank (2 Lakh liter capcity) and provide tape connection in village.	0.80
2.2	Provide drainage facility	Construct of drainage in village	0.20
2.3	To Provide Girls Training Programme	Capacity building of Girls - Karate Training	0.05
2.4	Pond Deepening	Deepening of Purain-Muda Pond	0.08
2.5	Library Facility	Develop Library facility at the center of village (for 05 years)	0.05
2.6	Provide sports facility	Playground Leveling and Cricket Ground preparation	0.05
3.1	Provision for child education	Special teachers appointed in 03 Aanganwadi centers for pre-school education (for 05 years)	0.10
3.2	Provide Clean Water		repeated 1.1
3.3	Income generation activity for less women educated women		repeated 1.61 &1.62
4.1	To start english medium School	Provide support and facilitate for opening english medium school up to 5th standard.	0.40
4.2	To provide drinking Water facility		repeated 1.1
4.3	Playground facility		repeated 2.6
5.1	Construct School for children		repeated 4.1
5.2	Provide drinking		repeated 2.1

	Water facility		
5.3	Develop Anagwandi Centers	Renovation of Anganwadi Centers and provide educational and sports material	0.10
6.1	Provide Health facilities	Renovation of Existing Sub Health Center and develop facilities and equipments for institutional delivery	0.08
7.1	Tree Plantation	Tree Plantation drive will be organized every year in the month of July and August. Plantation of 2000 trees every year in common place of village (for 05 years)	0.05
8.1	To provide road	Construction of CC Road in Gare village	0.20
8.2	To Provide Health checkup camp	Free Health Checkup camps will be organized every week in the villages.	1.20
	Education facilities	Support teachers for special education of English and maths in middle school (5 years)	0.10
8.3	To Provide water facility	Borewell drilling, installation of Submersible pump with water tank construction	0.15
Total (527.50 Lakhs)			**5.275**

13.2.2.14: Cost of Project: The capital cost of the proposed project is Rs. 7463 Crores and the capital cost for environmental protection measures is proposed as Rs. 1484.53 Crores. The employment generation from the proposed project is 3400 persons. The CSR cost will be 2% of the average net profit and R&R cost will be 2435 Crores. The Cost of implementing EMP (Capital and Recurring both) will be Rs. 1484.53 crores in which 1027.66 crores is for Progressive Closure and 456.87 Crores is for Final Closure of Mine.

The details of cost for environmental protection measures is as follows:

Heads	Total Amount, Rs. Lakh	Recurring Cost (Lakh)
Progressive Closure		
Safety and Security	1958.44	19.5844
Topsoil management	5628	56.28

Technical and biological reclamation of mined out land and OB dump	94174	941.74
Plantation over virgin area including Green Belt	143.44	1.4344
Water quality management	340	3.4
Air quality management	340	3.4
Subsidence monitoring	19.09	0.1909
Manpower cost and supervision	163.5	1.635
Sub Total	**102766.47**	**1027.6647**
Final Closure		
Dismantling of infrastructure, disposal/rehabilitation of mining machinery	2843.76	28.4376
Top soil management	955	9.55
Technical and biological reclamation of mined out land and OB dump	41424.12	414.2412
Landscaping and plantation	95	0.95
Power cost	40	0.4
Water quality management	12	0.12
Air quality management	12	0.12
Subsidence monitoring	0.91	0.0091
Manpower cost and supervision	4.5	0.045
Others, miscellaneous	300	3
Sub Total	**45687.29**	**456.8729**
Grand Total	**148453.76**	**1484.5376**

13.2.2.15: Undertaking/ Affidavit: PP submitted the undertaking that the information provided in Form-I in physical format and in pdf format of PARIVESH and the presentation made during the meeting have no deviation in respect to the said proposal. Also, there are no data entry errors in the information uploaded on the PARIVESH portal and the supporting documents uploaded on the PARIVESH portal are correct and duly authenticated. PP also submitted an affidavit for the project, that there is no construction/

mining done at the mine site or the construction done without any deviation as per previous EC obtained. Also, there is no litigation pending on the project at either NGT or any other court of law.

13.2.2.16: Consultant: PP submitted that QCI/NABET accredited consultant (M/s Vardan EnviroNet, Gurgaon) has been engaged for further activities for Environment Clearance**.** M/s Vardan EnviroNet, Gurgaon is accredited by QCI/NABET and NABL, NABET Certificate No – NABET/EIA/2326/RA 0284, Valid up to – May 04, 2026.

The proposal was last considered in 11th EAC, held on 09.05.2024 wherein the proposal was deferred for want of additional information. The proponent submitted the ADS reply vide letter dated 18.06.2024 uploaded on PARIVESH on 19.06.2024. Point-wise reply of ADS is given as below:

Sr. No.	EAC observations	Reply
i.	Additional information already sought by the EAC, including additional carrying capacity study as mentioned above.	<u>The compliance of the additional information, sought by the 9th EAC MoM dated 08.04.2024 with additional carrying capacity study are as follows: -</u> I. <u>EIA/EMP report: -</u> Mahagenco engaged Vardan Environet as a QCI/NABET accredited consultant. Further, Vardan Environet collected fresh base line monitoring data for the period of 25th March to 15th June 2024 to revalidate the previous EIA/EMP report. Revalidated EIA/EMP report along the fresh base line monitoring report has been submitted. II. <u>Fresh socio-economic study/ assessment.</u> Mahagenco engaged a reputed institute i.e Entrepreneurship Development Institute of India (EDII), Ahmedabad (A National Resource Institute in Entrepreneurship Education, Research, Training & Institution Building. Promoted by IDBI Bank Ltd; IFCI Ltd, ICICI Ltd, SBI and Govt. of Gujarat. EDII also recognized as Centre of Excellence by the Ministry of Skill Development & Entrepreneurship, Govt. of India) to carry out a fresh socio-economic study/ assessment. The report is submitted. III. <u>Details of Gram Sabha: -</u> All gram Sabha meetings held to get the FRA certificate from district Collector, Raigarh under Forest Conservation Act-1980 are submitted.

		IV. Mitigation measures for anticipated impact of the project on the health of people: - Mahagenco engaged Central Institute of Mining and Fuel Research (CIMFR), Dhanbad (a Council of Scientific and Industrial Research (CSIR) institute, under Ministry of S&T. Gov. of India) for study to assess the anticipated health impact and mitigation measures for the villagers of GP-II coal block and surrounding areas. PP submitted the copy of report. V. Additional Carrying Capacity report: - During the 11th EAC meeting, the committee advised CECB to conduct the additional or supplementary Carrying capacity study by the IIT/reputed government institute to assess the impact of the proposed project on the local environment along with its mitigation measures to be undertaken. CECB has informed that they have engaged IIT-Patna for the work and the report will be submitted to MoEF&CC. VI. Hydrology study from IIT (ISM), Dhanbad: Mahagenco engaged IIT (ISM) to carry out the hydrology study. In the same manner, the discharge data of Kelo river for the period of 1958-59 to 2005-06 which was available collected by Mahagenco from Kelo project Survey division, Raigarh. (Letter from Executive Engineer is submitted. Accordingly, IIT (ISM) conducted a fresh study and prepared a report on Hydrology & Embankment design. PP submitted the report of the same. VII. Wind Rose Diagram: The wind rose diagram has been prepared using the typical meteorological data and the same is incorporated in the chapter 3 of EIA report. The monitoring teams deployed in the field on the coverage area ratio and as per the direction of the

		wind. Monitoring report attached as annexure-XVII, of the EIA report. VIII. Support generation of renewable/ purchase power generated from the renewable sources The details of the support generation of renewable/ purchase power generated from the renewable source is submitted. IX. One/few of the Sustainable Development Goals (SDG) and start working on the mission of net zero Groups initiatives in order of the Sustainable Development Goals (SDG) for the sustainable mine operation is submitted. X. Plan for protection of the ecology of the surrounding area and post-mining ecological restoration plan Mahagenco engaged IIT (ISM), Dhanbad to prepare a plan for protection of the ecology of the surrounding area and post mining restoration plan. PP also submitted the report XI. Detailed plan (year-wise for life of mine) for afforestation and greenbelt development. T*he number of saplings to be planted, area to be covered under afforestation & green belt, location of plantation, target for survival rate and budget earmarked for the afforestation & green belt development. The capital and recurring expenditure to be incurred needs to be submitted*. The seedling of height not less than 2 meters to be selected. PP submitted the detailed plan (year-wise for life of mine) for afforestation and greenbelt development in and around the mining lease. PP also submitted a detailed surface plan (year-wise for life of mine) showing the location of greenbelt development prepared. We agree that t*he height of the seedlings shall not be less than 2 meters* and plantation in the safety zone shall be completed within 2 years.

		XII. PP should submit the quantity of surface or ground water to be used for this project. The complete water balance cycle needs to be submitted. In addition to this PP should submit a detailed plan for rainwater harvesting measures to be taken. The PP should submit the year wise target for reduction in consumption of the ground/surface water by developing alternative sources of water through rainwater harvesting measures. The capital and recurring expenditure to be incurred needs to be submitted. Total water requirement with quantity of surface or ground water to be used for this project with complete water balance cycle is mentioned in Chapter-2 section 2.13.2 of the EIA report. Rainwater harvesting potential is calculated with budget. PP submitted the details of the same. Periodical water audit will be conducted during the operation of the mine and directions will be followed for reduction in consumption of ground/surface water. XIII. PP should mention the number and designation of person to be engaged for implementation of environmental management plan (EMP). The capital and recurring expenditure to be incurred needs to be submitted. The details of designated persons are incorporated in chapter-6 section 6.4 & Fig. No. 6.1 of the EIA report enclosed as Annexure-A.
ii.	Site visit report by the EAC Sub-Committee.	Site visit of EAC sub-committee has been conducted during 17th - 19th May 2024 and the report will be directly submitted to MoEF&CC by EAC sub-committee. (Site Visit intimation letter of MoEF&CC to Mahagenco is submitted)
iii.	CECB shall provide their comments and any other additional information in writing.	During 9th EAC meeting held on 09.05.2024 and subsequently MoM published on 08.04.2024, the clarification was sought from CECB regarding the procedure adopted for PH as per the EIA notification, 2006.

		Accordingly, CECB vide letter dated 29.04.2024 has submitted a detailed deliberation on the proceeding of the Public Hearing, which was done on 27.09.2019. PP also submitted the copy of the same. However, during the 11th EAC meeting, the committee advised CECB to submit a written response as well as their opinion on procedure of PH. Accordingly, it has been informed that CECB has submitted their written response directly to MoEF&CC on the same. Clarification on CPA/SPA and AAQ data: During the 11th EAC meeting, the committee advised CECB to clarify the CEPI Score of Raigarh and provide its comments whether the said district falls under the Severely or Critically Polluted Area. The Committee also asked the SPCB to also provide the AAQ data for the last one year. Accordingly, it has been informed that CECB has submitted their written response directly to MoEF&CC on the same.

13.7.3: Observations and deliberations of the EAC:

PP and the NABET Accredited Consultant made a detailed presentation. The Committee noted that the proposal of Gare Palma Sector II Coal Mine Project of Open Cast 22.0 MTPA + Underground 1.6 MTPA Capacity in the mine lease area of 2583.487 Ha of M/s Maharashtra State Power Generation Company Limited was considered in 8th, 9th & 11th EAC, held on 20.03.2024, 21.03.2024 and 09.05.2024 respectively. In 11th EAC, the Committee was of the view to further deliberate on this proposal, the representatives of SPCB, IIT – IIS Dhanbad and Entrepreneurship Development Institute of India (EDII) Ahmedabad shall be invited to the EAC meeting to give their opinions on the ground reality as they were present when the studies were being conducted. Accordingly, PP submitted the reply (i.e. status of action taken on the information sought by the EAC) and the proposal is now placed in 13th EAC meeting held on 01.07.2024 & 02.07.2024.

The Committee further noted that MAHAGENCO has submitted Form 1 application and a pre-feasibility report for obtaining Terms of Reference (ToR) from the Expert Appraisal Committee (EAC). The project proposal was considered and appraised by the EAC

(Thermal and Coal Mining Projects) in its 58th meeting held on 23rd - 24th June 2016 wherein the Committee recommended the proposal for the grant of ToR. The ToR was issued vide letter No. J-11015/72/2016-IA. II (M) dated: 8th August 2016. The validity of ToR was extended vide letter dated 5.08.2019. After the grant of ToR, PP conducted a Public Hearing on 27th September 2019. The PP then submitted the Final EIA/EMP to MoEF&CC on 23.11.2019. The proposal was considered by EAC in its meeting held during 5.12.2019 and 28-29 September 2020 wherein the EAC recommended the proposal grant of EC. EC was issued on 11.07.2022.

An Appeal under Section 16(h) of the National Green Tribunal Act, 2010 has come up against Environmental Clearance (EC) dated 11.07.2022 granted by MoEF&CC, GoI. Considering the discussions, Hon'ble NGT finds that prior EC granted in the case in hand is vitiated in law on account of observations made, particularly, with regard to public consultation, non-consideration of ICMR report, Hydrological study and carrying capacity. The Hon'ble NGT vide Judgment dated 15.01.2024 mentioned that "*EC dated 11.07.2022 granted to respondent 4 (MAHAGENCO) is quashed. MoEF&CC may re-examine the matter from the stage of conducting public consultation afresh and in case, other appropriate study material is placed on record by proponent, the same may be considered/appraised and a fresh order may be passed by MoEF&CC with regard to prior EC in accordance with law and existing state of environment and ecology.* "

In accordance with the directives of the Hon'ble NGT, the Project Proponent (MAHAGENCO) has, through a letter dated 24.02.2024, requested the Expert Appraisal Committee - Coal Mining to consider their proposal in the upcoming EAC meeting. Ministry to comply with direction of Hon'ble NGT placed the matter before EAC as an additional agenda in its 8th its meeting held on 28.02.2024 wherein the directed that PP to first forward/circulate all the relevant documents including Hon'ble NGT Order dated 15/01/2024, to all the Members of the Committee. Henceforth, the matter was deferred. As desired by the Committee the PP, on 17.03.2024 circulated the relevant documents pertaining to the NGT judgement to the EAC and MoEF&CC. Further, the Ministry vide email dated 19/03/2024 circulated the requisite documents including NGT Judgment dated 15.01.2024 to the EAC. The PP vide proposal number IA/CG/CMIN/466451/2024 also applied on the Parivesh Portal and the proposal was placed in the 9th EAC meeting held on 21/03/2024 wherein the Committee deliberated on the proposal including the issue related to Public Consultation, ICMR Report, Hydrogeological Study, and Carrying Capacity Study. The Committee deferred the proposal for want of additional information. PP submit the status of the compliance as proposal was again placed in 11th EAC meeting held on 8-9 May, 2024 wherein the Committee deliberated mainly on i) Procedure followed while conducting Public Consultation and (ii) Carrying Capacity study as the other information submitted by the PP is premature at this stage and also a site visit is yet to be conducted by the sub-committee. The Committee after detailed deliberation on these issues deferred the proposal for want of i) additional information already sought by the EAC, including additional carrying capacity study as mentioned above, ii) Site visit report by the EAC Sub-Committee, and iii) CECB shall provide their comments and any other additional information in writing. PP provided the requisite information and proposal is now placed in 13th EAC meeting held during 1-2 July, 2024. The Committee deliberated

on the proposal including the ToR compliance, revised EIA/EMP report, reply submitted by the PP for information already sought, and site visit report. The Committee also interacted with the representative of CECB, IIT(ISM) Dhanbad, CIMFER (Dhanbad), and EDII, Ahmedabad. Based on the discussion held and document submitted the Committee is of the following view:

1) MoC, GoI has allotted the Gare-Pelma Sector-II Coal Mine to Mahagenco on 24.03.2015. Mahagenco signed the Allotment Agreement on 30.03.2015 and subsequently signed the Amendment on 31.08.2015. The proposed production rated capacity of the mines is 23.60 MTPA (22.0 MTPA by OC & 1.60 MTPA by UG). Accordingly, the mining plan has been prepared and duly approved for the rated capacity and peak capacity based on the office memorandum F.No.34011/28/2019-CPAM, Ministry of Coal, GOI dated 29.05.2020 and approved by Ministry of Coal, Govt. of India vide letter No. F. No. 34011/16/2016-CPAM dated 12.08.2016. Mining lease application submitted on 08.12.2015.

2) Production of coal with production capacity 23.60 MTPA (22.0 MTPA by OC & 1.60 MTPA by UG). Installation of coal handling plant - A coal handling plant with design capacity of 23.6 million tonnes per annum will be established. Coal is to be produced through surface miners from opencast and through continuous miners from underground, which will not require additional crushing in the coal handling plant (CHP). Coal produced from opencast will be transported by 100/150T dumpers directly to the ground bunker of 70000 tonne capacity via unloading platform, reclaim conveyor and transfer point and coal from underground will be directly fed to the ground bunker through the conveyor emanating from the incline. Total geological reserve reported in the mine lease area is 1059.29 MT with 781.78 MT mineable reserves. Out of total mineable reserve of 781.78 MT, 655.15 MT are available for extraction. Percent of extraction is 83.8%. The Coal linkage of the project is proposed for captive use for various thermal power plants of Mahagenco namely Chandrapur Thermal Power Station Unit 8 & Unit 9 (1000 MW), Koradi Thermal Power Station Unit 8, Unit 9and Unit 10 (1980 MW), Parli Thermal Power Station Unit 8 (250 MW). The Life of mine is total 77 years (Life of OC mine – 29 years and UG mine - 66 years starting from 12th year onwards).

3) The lease area is 2583.48 Ha (Non-Forest Land: 2368.618 Ha & **Forest Land**: 214.869 Ha). PP submitted that FC Stage-I granted vide File No. 8-06/2022-FC dated 02.06.2022 and subsequently, FC Stage-II granted on 27.01.2023. The Committee observed that the Silot Reserved Forest is located at around 0.1 km (N) and Tolge East Resrved Forest is located at about 2.7 km (E), Barkachhar Reserved Forest – 7.5 km (S) form the project site. The Committee is of the view as the forest is at the distances of 100 meters PP shall create a natural wind barrier between the lease boundary and forest area by developing green belt. Impact on the forest land shall be studies/monitored at regular interval and report shall be submitted to RO. The Committee also observed that there is no grazing land involved in the project.

4) PP submitted that there is no wild life sanctuary, national park or eco sensitive zone within 10 Km radius of the mine lease area. Wildlife conservation plan was prepared by Learn nature consultants pvt Ltd., Raipur. Wildlife conservation plan submitted by PP on 14.11.2019. WLCP has been approved by PCCF (WL), Raipur, Chhattisgarh dated

20.01.2021 with Rs. 344.40 Lakhs of budgetary provision. The Committee is of the view that PP shall deposit the amount to the concerned authority. Although based on the survey conducted, the project site does not have any species which fall under the Schedule I of The Indian Wildlife (Protection) Act, 1972 or under threatened category of The IUCN Red List of Threatened Species. But within the 10 km radius of project site (in Reserve forest patches) three Schedule-I species were recorded as per the Forest records. The Committees is of the view although there are no threatened species but PP shall give training/conduct awareness program for its employee/workers to protect the wildlife if any found in the project area.

5) The Committee observed that the project is not located in CPA/SPA and the same is also confirmed from Carrying Capacity Study report submitted by CECB.

6) The Committee observed that earlier, baseline data collection was considered Post Monsoon Season (Oct to Dec 2016) and (Nov 2019 to Jan 2020). Again for re-validation of EIA report baseline data (25th March to 15th June 2024) has been collected. The Committee is of the view the project was to be reviewed from the stage of public consultation but baseline data was asked to collect to get the recent environment scenario. The Committee observed that as compared to 2016 level there is some increase air pollutants but as per the results of the monitored data indicate that the ambient air quality of the region in general is in conformity with the National Ambient Air Quality Standards with present level of activities. Ambient Air Quality Monitoring reveals that; the minimum and maximum concentrations of PM10 and PM2.5 for all the 25 AAQM stations were found between 37.50 to 82.70 µg/m3 and 18.50 to 57.60 µg/m3 respectively. The minimum and maximum value concentrations of SO2 for all the 25 AAQM stations were found between 4.40 µg/m3 to 25.40 µg/m3. The minimum and maximum value concentrations of NOX for all the 25 AAQM stations were found between 7.80 µg/m3 to 38.90 µg/m3. The concentrations of CO for all the 25 AAQM stations were found between 0.30 to 1.08 mg/m3. The Committee also observed that more number monitoring stations were installed as compared to 2016 when initial baseline study was done. The Committee observed that as per the EIA the noise levels recorded at all locations were within the limits of ambient noise as per Noise Regulation (Pollution & Control) Rules, 2000. The maximum & minimum Leq values for day and night time was observed to be 53.21 and 30.88 dB (A) respectively, which can be attributed to local prevailing environment (Mining, industrial, Railway siding and Highway). However, the recorded noise levels were found within the limits of Industrial Noise (75 dB (A)). PP submitted the analysis of the 22 nos. of Ground Water and 22 nos. of Surface Water samples in EIA and it has reported that the GW samples are falling within the drinking water standards and surface water is indicating category A of CPCB water quality criteria. As per the EIA the soil samples are predominantly Clay loam type.

The Committee observed that PP has provided the impact during the construction and operational phase in the EIA. During the construction activities like establishment of workshop, service buildings, development of roads, etc., will increase the noise levels and dust pollution. PP also provide the mitigative measures for dust, noise and water which inter-alia include water spraying, speed limit, plantation, PUC for vehicles, covered transportation, Construction activities will be carried out only during day time, Noise

generating equipment will be kept away from the residential buildings, all the machineries which will generate noise will be covered with the tin sheets, domestic water will be treated in Septic tank and Soak pit, waste water generated during construction activities will be diverted to settling tank for suspended solids deposition and the same will be used for greenbelt. The Committee is of the view that during the construction phase there are possibilities of generation of plastic waste and PP shall provide the provision for collection of the same and take steps for its minimization. PP shall ensure the construction waste if any shall also be utilised/handle properly as per rule. During the operation phase, PP reported the impact on Air Quality, Water Quality & Hydro-geology, Noise, Land Use, Flora & Fauna and Socio-Economic Environment. PP has also calculated the AQI (sub-index values) for various pollutants. PP also provided the cumulative impact of all the pollutants in Chapter 4 of EIA. The Committee observed that it is reported that as per the analytical reports of the project site and the surrounding areas, the ambient air quality is found well within the NAAQS limits except the incremental GLC of PM2.5 which is slightly higher than the limit. Environment Management Plan will be appropriately taken up to mitigate the air pollution. Further, the Air Quality Index for study area falls under good, satisfactory, and moderate categorization as per the data obtained during baseline studies. The AQI index of the area is also found satisfactory. The health impact due to this AQI is very less and it may only cause discomfort to sensitive people. The Committee observed that mitigative measures suggested includes i) Wet drilling method will be employed while carrying out the mining to decrease the dust generation, ii) The underground workings of the mine will be well ventilated by adequate ventilation arrangements. The requirements and standards specified in this regard by Director General of Mines Safety (DGMS) would be adhered, iii) Effective water spraying arrangements will be done in underground working places, at haulage junctions, ore loading bunkers at pithead on surface, at main haul roads within the mine, approach roads to the mine and other transfer points, iv) Enclosures at ore transfer points and watering of roads at regular intervals, v) Transportation of materials (timber, roof bolts, grouts/resins, spare parts, cables, lubricants, ventilation stopping materials, etc) from the surface mine to underground working place, direct rope haulage system and endless haulage system will be used, vi) Water sprinkling will be carried out by both fixed and mobile sprinklers on internal transport road, transfer points, critical areas, loading and unloading points, vii) Proper periodic maintenance of machinery and vehicles, viii) The run-off during the monsoon will be collected through the network of drainage system and treated in settling pond and the same will be utilized for dust suppression system, ix) Plantation will be done within the mine premises, along the boundary and also along ore transport route. In order to minimize the adverse impacts of the proposed mine on the local villages, greenbelt development will be carried out using local species around ore loading and unloading points and along the transport road, x) When the roads are ready, it is proposed to plant avenue trees on both sides of roads. Only the native species that are well adapted to the local agro-climatic conditions will be chosen for plantations (avenue trees) along the roadsides and xi) Around 2500 saplings per annum in 1 Ha in the vacant areas.

The Committee noted that in the initial 5 years, the production level proposed is 9.5 MTPA as against 22.0 MTPA which is 43% of the total production and during these 5 years PP shall take massive concurrent dense three-tier plantation along the lease boundary and

outside the lease area so that by the time production level reaches to proposed production capacity sufficient plantation/green belt has already been developed. Further from the 6th year onwards, the backfilling shall be started and internal dumping should be done so that reclamation of the backfilled area starts at an early stage. The Committee observed that road transportation is proposed for an initial 2 years is 1.55 MTPA.

7) The Committee in the previous meeting deliberated on Judgement dated 15.01.2024 of Hon'ble NGT, in which it is mentioned, "…We find that carrying capacity study was to be conducted by CPCB and CECB and data was required to be compiled by the said authorities. There is nothing on record to show that any such study in respect of Tamnar Block which included the questioned area was conducted as per direction in Shivpal Bhagat (supra). Therefore, carrying capacity study by authority which was required to undertake the same, has not been conducted and this aspect has not been taken care by the Competent Authority in granting prior EC."

The Committee therefore interacted with the representatives of SPCB about the same and asked whether this mine is included in the Carrying Capacity conducted by SPCB for Tamnar Block through IIT Bhilai and IIT Bombay. The representatives of SPCB informed that the study was done for already existing mines and power and iron plants and the proposed mine was not included in it. Therefore, the Committee suggested to SPCB to request IIT or some other reputed government institute to conduct a carrying capacity study, which should include not only the present operating mines and industries but also the proposed industries and mines coming up in the area, along with mitigative measures which should be taken for the same. The Committee observed that "Carrying Capacity and cumulative impact assessment study with its mitigation measures by also taking into account the impact of the proposed project on the local environment in Tamnar block in District Raigarh, Chhattisgarh" undertaken by Chhattisgarh Environment Conservation Board (CECB), Raipur was carried out by the IIT-Patna. The Committee also interacted with the Dr. Amit Kumar Verma, expert from IIT-Patna who briefed the Committee about the study report. The Committee observed it has mentioned in the report that in April 2023, a carrying capacity study was carried out by IIT Bhilai and IIT Bombay in Raigarh and Gharghoda Blocks of Raigarh District, Chhattisgarh State, in response to a request and invitation from the Chhattisgarh Environment Conservation Board (CECB). IIT-Patna prepared carrying capacity report comprising the region along the Gare Palma and assesses the impact of operational mines and the upcoming project in the surrounding area of the Gare Palma region of Tamnar block. The study consisted of the air quality index based on the regular time air monitoring, water quality of the region, water quality index, soil quality of the region and the ecological impact due to the operational and proposed mines. IIT-Patna team also reviewed carrying capacity report, prepared by IIT-Bhilai and Bombay along with supplementary data study report on socio-economic status, hydrology data, ecology conservation plan and post mining ecological restoration plan submitted by Entrepreneurship Development Institute of India (EDII), Ahmedabad and IIT (ISM), Dhanbad.

The Committee observed that carrying capacity report concluded that in Tamnar block, the concentration of PM, SO_2, and NOx falls comfortably within the acceptable limits. Nonetheless, the RSPM levels in the region are close to the highest allowable limit for an industrial zone. Particulate matter could potentially hit its peak level in the future because of build-up. Hence, more steps need to be taken from the environmental management plan to improve climate change and decrease industrial pollution. Further, in the recommendation it has mentioned that The Carrying Capacity assessment conducted in Tamnar of Raigarh District, Chhattisgarh State, showed that the region still has capacity for PM, $S0_2$, NO_X. Yet, the Tammar block is getting closer to exceeding the maximum pollution concentration limit for Particulate Matter because of poor road conditions and higher levels of industrial activity like coal and ash transportation. Additionally, the following points have been observed that could potentially be incorporated into the action plan.

a) Coal and ash transportation is not permitted on any village road. All industrial roads need to be paved with concrete/asphalt and properly maintained with timely repairs. Roadside plantation needs to be done.

b) Regular water sprinkling work to be taken place all industrial roads.

c) Industries, power plants, and other establishments in the area with mine areas, coal handling units, and ash handling units must have a wheel washing system at all entrance and exit points.

d) Railway sidings need to adhere to CPCB regulations and should include rain guns, windbreaking walls, sprinklers, parking lots, access roads, drainage facilities, settling pits, etc.

e) If coal is being transported by road, transporters should be charged a surcharge based on their distance and time travelled for the purpose of road maintenance and repair.

f) CAAQMS must be installed in almost each village of Tamnar block and consistently connected to the state pollution control board according to CPCB guidelines.

During the meeting the committee discussed the report with Dr. Amit Kumar Verma and asked about the impact on human health. He informed that as per the report the Air Quality Index for the study area is classified as good, satisfactory, and moderate based on data collected during baseline studies. As a result of implementing the project and the activity of cluster mine, the AQI index in some locations will shift from satisfactory to moderate. The health effects of this AQI are minor and may only result in discomfort for individuals who are sensitive.

8) The Committee observed that Hon'ble NGT in its Judgment dated 15.01.2024 inter-alia made certain observation about the Hydrogeological Report, impact of mined drainage & diversion of nallas and study of flood level of Kelo River and impact if any. The Committee previously was of the view that the Hydrogeological study was done by NABET Accredited consultant, but Hon'ble NGT observed some shortcomings in the same, particularly concerning high flood levels and mentioned in its judgement that **"Moreover, high flood level of the river has been taken for a very small period of 1996-97 to 2002-03, though it should be of the period of last 50 to 100 years."** asked the PP to get the revised study done from IIT (ISM) Dhanbad and the concerned institute shall ensure that observation of Hon'ble NGT and applicants shall be addressed in the proposed study report. As desired by the EAC, the PP got the Hydrology Study and Embankment Design done from IIT (ISM) Dhanbad. During the meeting the Committee also interacted with Dr. Sunil Kumar Gupta who briefed the EAC about the report and recommendations.

The Committee observed, as per the report of IIT – ISM Dhanbad, observed that there are two major Nalas i.e. Nala A situated in West and Karnar Nala B in the East side of the Kelo river. The report suggests that, as these Nallah fall within the mining lease area and will be impacted by the mining activities, it is proposed to divert these Nala along the periphery of the lease area back into the Kelo river to minimise the impact and facilitate uninterrupted activities in the study area. The report suggests that it is proposed to construct a garland drain along the northern boundary line (within the block area) to join the same into Kelo river located in its east side. The diverted nala section should be lined and the banks should be fully protected by stone pitching on either side. Also, Karnar Nala is a non-perennial drain, with limited discharge during the monsoon period. The flow regime will be subcritical, which means it will not require any installation of energy dissipation structures within the channel due to subcritical flow in the diverted channel. According to the report, mining activities in the Gare II coal block are not expected to directly impact the path of the Kelo River as the course of river will be maintained to its natural course by restricting the mining operation at least 100 m away from both sides of the bank as per the guidelines (DGMS).

The Committee observed that, as per report the increased siltation in the Kelo River due to material handling activities within the mine lease is a real possibility. Studies carried out by CWPRI in the Mahanadi basin have given a value of annual average sedimentation load as 466 tonnes/sq.km for the Mahanadi basin. The calculations done for the various land uses of the mine clearly indicates that the siltation from the mine lies well below the average limits given for this Basin. The Committee is of the view that the measures suggested in the report to mitigate the siltation on the Kelo River and its catchment must be followed by the PP which includes i) The mining activities will be restricted by maintaining a minimum distance of 100 m between the riverbank and mine pit boundary, avoiding disturbance to the riverbed and natural soil and aquifer characteristics, ii) The garland drains shall be provided for collection of surface runoff at the peripheral boundary of embankment which will also arrest the sediment load, by settling, and treating the water before releasing it back into the Kelo River. iii) The seepage water from the Kelo River to the mine pit will be collected into the mine pit and pumped to the surface and after proper treatment the same will be released for the possible secondary utilization by the local

communities. iv) Implementing strict material handling and sediment control measures, and regularly monitoring the river's flow, water quality, and sedimentation levels. v) By implementing these mitigation measures and continuously monitoring the Kelo River's health, the potential impacts of the mining activities can be minimized, ensuring the river's long-term sustainability and its ability to support the dependent ecosystems and communities.

With regard to observation of Hon'ble NGT that "*Siltation in the river will also impact its flow and disturb its path*", the Committee observed that, IIT – ISM Dhanbad proposed that the mining activities be restricted by maintaining a minimum distance of 100 m between the riverbank and mine pit boundary, avoiding disturbance to the riverbed and natural soil and aquifer characteristics. Report also suggested implementing strict material handling and sediment control measures, and regularly monitoring the river's flow, water quality, and sedimentation levels. In addition to this, the report suggested that the garland drains shall be provided for collection of surface runoff at the peripheral boundary of embankment which will also arrest the sediment load, by settling, and treating the water before releasing it back into the Kelo River.

The Committee also noted that report provides the impact of seepage of Kelo River into the mine working area wherein it has mentioned that *"Detailed analysis of seepage and mine water generated, it is evident that the anticipated amount of water to be dewatered from the mine on a daily basis comes out to be very less as compared to the mean daily flow of Kelo River, which is going to remain less than a maximum value of 0.12 % in the near future (till the year 2028-29). The detailed estimate on the mine water seepage and dewatering is given in Table 15, This shows that the impact of seepage and mine dewatering on the Kelo River flow will be negligible.*

The Committee is observed in the report submitted by IIT – IIS (Dhanbad) that, the mean discharge of the Kelo river for the period between 1958 to 2023 is 15,50,880 KLD. Over analysis of the impact of mining on the flow of Kelo river dictated that the total water requirement for the mining related activities is 2785 KLD. Out of which 1785 KLD is fresh water and 1000 KLD will be fulfilled from recycled water. Further, out of 1785 KLD water, 1454 KLD water will be met from groundwater with due permission of CGWA. The remaining 331 KLD of freshwater will be taken from Kelo river which is merely **0.021 %** of the mean daily discharge of Kelo river. *This signifies very less impact on the flow of Kelo river.* Further, IIT ISM team shown "anticipated amount of water to be dewatered from the mine, which is going to remain less than a maximum value of 0.12 % in the near future (till the year 2028-29)" which shows that the impact of seepage and mine dewatering on the Kelo River flow will be negligible.

The Committee observed that w.r.t observation of Hon'ble NGT for making arrangement for embankment all along Eastern and Western bank of Kelo river, affecting natural flood plain zone of the river. The PP submitted that in the report submitted by IIT – ISM that the

team proposed embankment along the eastern and western bank of Kelo river. DGMS mandated only 15 meters from either bank of a river, however IIT (ISM) team also proposed that a minimum distance of 100 m between the river and the mine pit boundary shall always be maintained at different sections of the river. In the said report IIT ISM team has proposed a detailed design for the embankment along the Kelo river and natural water flow. It also has been recommended that the height of the embankment shall vary from 2m to 9m on the right bank and from 4m to 9m on the left bank. It is further recommended to strengthen the embankment on the riverside by placing large boulders in wire net bags. The embankment will also be stabilised by road rollers and vibrators followed by plantation of grass and bushes. The HDPE geomembrane lining is to be provided in the embankment. The apron provided at the base of the embankment will help in considerably reducing the seepage through the base of the embankment. In addition, the central core layer will have interlocking arrangement at the base to avoid seepage from the base.

The Committee observed that w.r.t to observation of Hon'ble NGT i.e "High flood level of the river has been taken for a very small period of 1996-97 to 2002 03, though it should be of the period of last 50 or 100 years". In this regard PP submitted that Long term Rainfall data of the gauge station in Raigarh, and the discharge values (inflow to the river from the reservoir) collected and used from 1958 to 2006 (48 years) to develop a rainfall-runoff model. EE, Kelo project Yojna also provide a letter for the same. Further, due to unavailability of discharge value from year 2007 to 2023, the total runoff volume was further used to predict the discharge values. Hence the runoff for this period was determined by developing a statistical rainfall-runoff model from annual rainfall data which was available from 1958 to 2023.

In addition to the observations of NGT, the Committee also deliberated on the groundwater in the said area. The report of IIT – ISM Dhanbad states, that to study the impact of mining on the water quality, the groundwater samples were collected from 14 nearby villages of GARE-PALMA II, Coal Block mining region and also from u/s and d/s of Kelo river. Different physico-chemical parameters were assessed. These parameters were then integrated to develop a water quality index (WQI), through which the drinking water suitability of groundwater is determined. The analysis of WQI values of the groundwater samples shows that all the samples fall in the category of excellent to Good, which means that groundwater of the region has not experienced any significant deterioration on account of mining activities. The pH of most of the water samples lies in the permissible limit as prescribed by BIS showing that mine related seepage is not occurring in the groundwater table of the region. Some samples have moderate turbidity values while the other major parameters fall under the permissible limits. This means that "muddy" nature of the groundwater can be tackled by simple filtration units without requiring any advanced filtration system. *The water quality of the surface water samples collected from the upstream and downstream section of the river falls in the "Good" category.*

The Committee also referred to the Water quality report submitted by NEERI, wherein, at some of the locations, values of arsenic, nickel, iron, manganese, fluoride and such other

minerals were found beyond the permissible limits. However, as per the EIA report, Hydrogeological study conducted by IIT (ISM) Dhanbad, carrying capacity study conducted by IIT Patna no such observation was made. The Committee also had gone through the CGWA report 2020, prepared for Tamnar block Raigarh district, as per no arsenic contamination in groundwater was found in any sample collected in Tamnar block. The committee also reviewed the NEERI report for the Tamnar block wherein certain groundwater parameters indicate toxic levels. However these cannot be ascribed to the proposal under consideration since the mine has not started operations. Further, the Committee is of the view that PP shall monitor all these parameters, take mitigation measures if required and submit a report to the concerned RO of MoEF&CC in six monthly report. Safe drinking water shall be supplied to all residents of the ML area.

The Committee is of the view that the PP shall implement the recommendation made in the report of IIT (ISM) Dhanbad in addition to this the Committee is of the view that PP shall optimize the water requirement and also augment or harvest the water by rainwater harvesting measures. PP shall monitor the water quality surface as well as groundwater for the presence of heavy metals. In addition to this, a water audit needs to be done every year for the reduction of specific water consumption by various means. The committee observed that all points w.r.t hydrology raised in the judgement of Hon'ble NGT have been adequately addressed in the above additional study by IIT-ISM Dhanbad.

9) The Committee noted that, Hon'ble NGT in its Judgement dt. 15.01.2024 asked the Ministry to review the proposal from the stage of conducting Public consultation afresh. As per EIA Notification 2006 (as amended) the concerned State Pollution Control Board is responsible for conducting a public hearing and also for seeking written responses from the concerned persons having a stake in the environmental aspects of the project or activity. Therefore, in the previous meeting the EAC sought comments of the Member Secretary, Chhattisgarh State Pollution Control Board regarding details of the prescribed procedure followed for the Public Hearing; was this procedure was fully followed as per the rules; the number of people who participated; details of written submissions received; details of issues/ concerns raised by the attendees both orally and in writing, any comments received from the applicants who have filed the case before Hon'ble NGT may also be provided. The committee also viewed the video recording of the public hearing. The Committee also desired that to further deliberate on this issue, the representatives of SPCB shall be invited. Ministry vide email dt. 02nd May 2024, requested Member Secretary, State Pollution Control Board, to take necessary action as per the above recommendation of EAC and also to attend the 11th EAC meeting scheduled for 09th May 2024. During the 11th EAC meeting the PP informed that Member Secretary, CECB vide letter dated 29.04.2024 provided details of the prescribed procedure followed and mentioned that procedure was followed as per EIA Notification 2006. It was also informed to the Committee that Sh. R.K Sharma (SE, CECB) and Sh. Jhon Lakda (ACE, CECB) representatives from SPCB has joined the meeting through virtual mode. The committee interacted with the above representatives of CECB on the procedure followed during the public consultation. The representative of CECB informed that Member Secretary, Chhattisgarh Environment Conservation Board (CECB) vide letter dated 29.04.2024 provided a clarification regarding the public hearing and as per the clarification provided by MS, CECB, the public hearing was conducted by CECB as

per the procedures laid down in EIA notification 2006 (as amended). All the provisions of EIA Notification, 2006 has been complied with. CECB informed that the Public hearing conducted on 27.09.2019 at Government Primary School Ground, Dolesara, Tehsil Tamnar, District Raigarh in close proximity to the project as per EIA notification, 2006, completing all necessary observations/preparations. Public hearing was conducted under the chairmanship of the Additional District Magistrate Mr. R. A. Kuruwanshi and R.O, CECB- R.K. Sharma as its Member Secretary.

The representative of CECB also confirmed the same during the meeting. In the same meeting the Committee asked whether the opportunity was given to local people to record their observations. In this regard representative of CECB informed that Additional District Magistrate, Raigarh announced many times and local people were asked to come forward and respond and record their objections and consent if any regarding project. The Committee also observed that the same was also recorded in the letter dated 29.04.2024 at Sl. No 12. It was also informed to the Committee that 59 persons present at the venue responded orally and 2 persons submitted the written response. The Committee also asked whether the four petitioners who have filed the case before the Hon'ble NGT recorded their oral and written submission during the PH or earlier submitted any responses. In this regard, representative of CECB informed that representation of two of the petitioners were received in 2018 and 2019 respectively. Further, they have submitted health and environment reports prepared by some individuals on their own and not endorsed by any government agency. The Committee observed that in letter dated 02.04.2018 one of the petitioner requested for cancellation of the Public Hearing on various grounds viz. i) Gram Sabha's NOC for Forest Rights Act, ii) no project can be established in the Fifth Schedule area without the permission of the Gram Sabha, this public hearing being organized in disregard of the Constitution and the PESA Act., iii) Forests and agricultural land will be destroyed, iv) mining should not be done in this area without carrying capacity study and cumulative impact assessment, v) issues related to acquisition of land including tribal land, iv) pendency of forest right claims, vii) environmental condition of this area should be examined etc. The Committee observed that other petitioner raised issue regarding violation of Panchayat Raj Adhiniyam via written submission that gramsabha has not been conducted in all the affected villages, hence request to cancel the public hearing.

It was also informed to the Committee that Maharashtra State Power Generation Company Limited has already obtained Stage –II FC on 27.01.2023 and PP vide email dated 03.05.2024 also submitted the letter dated 02/12/2019 issued by the Collector, Raigrah District thereby forwarding the NOCs obtained from Gram Sabha, which are based on meetings of the gram sabha. The Committee is of the view that CECB shall provide their comments on this issue and any other additional information in writing. Further, the Subcommittee shall visit the site and submit its report for further deliberation on the issue. To get an insight of the views of people the Committee also suggested for a socio-economic study.

In the 13th meeting of the EAC, the CECB officials again explained the procedure for Public hearing carried out as per EIA rules and informed the committee that in other projects also a similar procedure is followed.

During the 13th EAC meeting PP submitted the that as suggested by EAC, PP carried out a comprehensive socio-economic study through Entrepreneurship Development Institute of India (EDII), Ahmedabad, which is an acknowledged National Resource Institute for Entrepreneurship education, research & training and is recognized as the Centre of Excellence by Ministry of Skill Development and Entrepreneurship and is also the National resource Organisation (NRO) for the Ministry of Rural Development, Government of India.

The Committee noted that the study was done based on the data collected from fourteen village and Focused Group Discussion held with various stakeholders of 7 Villages. The study covers 14 villages in the Raigarh district of Chhattisgarh, with a population of 13,567. The data collection process for the study employed three primary techniques: personal interviews, focused group discussions, and hand-out questionnaires. The questionnaires were designed to cover a wide range of topics relevant to the survey, including basic household information, demographic profiles, socio-economic status, occupation patterns, educational status, health status, socio-cultural status, village infrastructure etc. Data Consultation was conducted in all of the villages to ensure a comprehensive understanding of the research area. It is inferred from the survey that the agriculture sector is predominant, and the average annual income from agriculture is 1.35 Lakh; in service, it is 1.25 lakh, and in wage labour, it is 1.09 lakh. Focused Group Discussion has been undertaken in 7 villages out of 14 affected villages. Villages were selected as per the proximity to the mining area, concentration of SC/ST households, most affected villages, and villages having more population. In each village where FGDs are conducted, a common meeting was held with prior information to the members of villages and key informants like Sarpanch, village head, Ward Member, AWW, teachers, farmers, SHG members, etc. Participants highlighted cultural and psychological impacts, including changes in kinship patterns and socio-cultural practices due to the anticipated mining activities. Environmental concerns such as noise pollution, water pollution, air quality degradation, and the impact on forest resources and wildlife were also raised during the discussions. The villagers' also emphasised on the need for Employment, improved road connectivity, access to electricity, safe drinking water, and sanitation facilities.

Residents near mining sites raised concerns about the impact on their traditional livelihoods. Specifically, the SC and ST women communities of mining-affected villages described that they used to make bamboo baskets and leaf plates before mining. At that period, forest resources were abundant, and by collecting bamboo and sal leaves, they were in the habit of preparing and selling these products. But mining has diminished this occupational opportunity. It was further observed that Forty-five religious places, 25 community halls, 11 panchayat bhavans and six grazing grounds are being disturbed.

One of most significant impact of resettlement is the disturbance of the social fabric. A plan needs to be made that maintains the spatial and cultural practices in the new geography. The sanctity of religious places, not just the sanctum sanctorum, needs to be

maintained. This is a sensitive area particular for tribals as they tend to have multiple deities and have spatial conditions for them. Providing space for fairs, melas and Haat is mandatory. Cultural and spiritual support can provide opportunities to the affected individuals for cultural expression, traditional rituals, and spiritual guidance to reconnect with their identity and sense of belonging. Since mine would bring a large multi-cultural population from outside these villages, the demography of the area changes disturbing the social fabric. *The Committee is of the view that social fabric of the area needs to be kept intact, accordingly, the R&R plans should be made such that the Cultural and religious belief of the locals are protected.*

As mentioned in the report, cash-only resettlements have led to increased impoverishment due to usage of cash for immediate requirements such a loan repayment, higher conspicuous consumption and involvement in nefarious activities specially in case of tribals. A large number of the outsees are not educated enough to get good jobs and end up becoming marginal labourers. It has been observed in much development and government programmes that in large number of cases money given to men has not been utilised properly. Instead, when the amount is given to the women directly, it has led to high family welfare and women empowerment. In some cases, it reduced domestic violence. Women contribute the upkeep of the homes in rural communities with subsistence farming, gardening, rearing chickens, collecting and processing local produce and other foodstuffs, fishing in streams and petty trading.

To cope up with the psychological impact, emotional support provided by trained counsellors can help the individual and families. Apart from this, raising awareness about mental health through community meetings and informational materials can reduce stigma within affected communities and encourage them to seek help when needed. A holistic programme addressing several issues of improvisation, psychological and cultural impact, and environmental and ecological effects needs to be developed. Education, capacity building, health, and women empowerment should be made central. The mitigating plan for resettlements needs a longer term and hence futuristic approach which maintaining the core of the rural communities.

During the meeting, PP informed that representative of EDII study team Prof. Piyush Kumar Sinha, Chief Mentor, EDII is available online for discussion on the outcomes of the report. Prof. Piyush submitted that about 60% of the area will be relocated. Their employment will be impacted. People in the area are of the view that employment should be generated; only compensation payment will not suffice. Rather thoughtful measures should be taken up to develop skills for alternate employment also. He further submitted that officials from EDII interacted with local community residing in the area, Community leaders support the project and seek support for Employment, Education (Skill development), Infrastructure (Hospitals, Roads etc.), Opportunities of entrepreneurial nature (with combine support of Corporate) Innovative industries, Cultural Support. PP Submitted that apart from compensation they will be giving job to members of the affected families. **The Committee enquired about willingness of the villagers for establishment of the industry.** Prof. Piyush informed that villagers largely support the project due to anticipated benefits in terms of financial compensation, improved livelihoods, and enhanced infrastructure and want the project to be started at the earliest.

Many have already invested in their land, expecting greater returns once mining operations commence. He further informed that despite concerns about the potential loss of kinship and traditional ways of life, villagers are optimistic about the developmental opportunities that mining could bring. They anticipate better access to health and education services for their children, contributing to overall improvements in their quality of life.

The Committee *observed that major concerns raised during the Social Impact* Assessment *study carried out by GreenC India Consulting Private Limited during 2017 also envisaged that the major issues present in the area include; people are worried about their relocation/migration, leaving their ancestral place and culture, decisions by Govt. being taken without informing them, loss of land and land rates being offered, health issues education issues; pollution, and infrastructure in the area. The Committee observed that it has mentioned in EIA report the based on this SIA the R&R plan was approved by Chhattisgarh Government on 4.02.2020.*

The Committee observed that it has mentioned in the Socio-economic report that "Resettlement is a process that requires a longer-term perspective. It is about recreating the current settlement while keeping the future in mind. The efforts needed to create a sustainable ecosystem that achieves a balance between modernity, traditions, technology, ecology and humanity. The life of mine is 77 years and beyond. Efforts must be made to craft strategies and plans for at least 10 years. In many cases, it has been found that the budgets allocated tend to be insufficient as the planning horizon is shorter". The report also provides the guiding principles for developing different mitigation plans. The Committee observed that budget proposed for addressing the issues of PH is Rs 5.275 Crores. The Committee suggested that PP shall prepare a mitigation plan following the guiding principal as mentioned in Socio-economic report within a period of six months and submit it to the Ministry. PP shall ensure that sufficient fund shall be allocated for the same keeping in mind that activities to be carried out for at least 10 years.

10) Further, as desired by the Committee, PP submitted the Health Assessment report for study carried out by ICMR in the Tamnar area during the year 2019-2020 and the report on Anticipated Health Impact Assessment and Recommendations by CSIR CIMFR (June24). The study of CSIR CIMFR was carried out with the objective to conduct the study for anticipated impact of the project on the health of people living in the surrounding area, suggest mitigation measures and offer comments on the ICMR report particularly with reference in this study on the predicted impact of the project on the health of people living in the surrounding area of Gare Palma-II Coal Mine Project in Tamnar, Raigarh, Chhattisgarh. During the meeting PP informed the Committee that Prof Santosh Kumar Ray and Prof Bhanu from CIMFR are available online to discuss the report on Anticipated Health Impact Assessment and Recommendations by CSIR-CIMFR. It was informed to the committee that study envisages the a) The project raises concern about water contamination, alteration of geomorphology, soil fertility loss, food contamination, and ecosystem service disruption. Additionally, occupational hazards include respiratory issues, physical injuries, noise-induced health problems, chemical exposure, psychosocial concerns, and sanitation issues, b) Suggested mitigation measures include dust control, transportation optimization, health screenings, ergonomic assessments,

chemical substitution, stress management programs, emergency response plans, water management practices, land reclamation efforts, and community engagement initiatives, c) The primary focus is to meticulously assess the potential ramifications of mining activities on the health concerns of the immediate stakeholders, namely employees and PAPs, and to devise proactive, precautionary, mitigative, and adaptive measures accordingly, d) Mining operations inherently entail various occupational health hazards, including exposure to dust, noise, and hazardous chemicals. Dust generated during mining activities poses respiratory health risks, potentially leading to conditions such as pneumoconiosis and chronic obstructive pulmonary disease (COPD) among workers, e) Similarly, prolonged exposure to high noise levels can result in hearing loss and other auditory disorders, f) Furthermore, the disturbance of land and soil fertility loss can impact agricultural productivity, posing additional challenges to the local community's livelihoods, g) The project's proximity to water bodies raises concerns regarding potential water contamination, which could have far-reaching ecological consequences, h) Due to the large-scale operations proposed by the GPII project, there is a chance of potential water contamination. Activities such as mining, waste disposal, and transportation logistics may introduce pollutants into local water bodies, i) To mitigate these occupational health issues and hazards, comprehensive safety measures and health protocols must be implemented throughout the project lifecycle. This includes providing personal protective equipment (PPE), conducting regular health screenings, ensuring proper ventilation in underground mines, implementing ergonomic work practices, promoting mental health awareness, and engaging in community health programs to address the broader health impacts of mining activities. Additionally, ongoing monitoring and evaluation of occupational health risks are essential to adapt and improve safety measures as needed, j) While the project aims to meet India's growing coal demands, bringing-in economic activities and developing a livelihood facilitating ecosystems in the area however, it has also risk of substantial environmental and occupational health concerns. The study outlined potential risks such as water contamination, alteration of geomorphology, soil fertility loss, food contamination, and disruption of ecosystem services. Similarly, the risk of occupational health contains respiratory hazards, physical injuries, noise- induced health issues, chemical exposure risks, psychosocial health concerns, air and water pollution, and emergency response risks for workers and nearby communities, k) ICMR health vulnerability concerns are indicative of its skewness towards lifestyle and psychosomatic dimensions leading to diseases like high blood pressure (BP), diabetes, etc. This may be addressed by mitigating their stress component, which occurs due to idleness, meagre avenues of economic activity, and a lack of livelihood opportunities leading to mundane life quality, l) As stated above, the mine/project may only be consented towards its go ahead if and only if it is to be carried in a sustainable manner. Additionally, towards the health concerns of its people and larger stakeholders, project proponent must develop a healthy ecosystem beyond mandatorily required dispensary and occupational health centres. This may include developing a multi-speciality hospital with modern instruments and medical professionals to cater the health venerability of the people and community living in the area and vicinity, and m) Ultimately, a collective effort involving government agencies, industry stake holders, local communities and health professionals is essential to ensure responsible management of the mining project and preservation of human health and environmental integrity.

The expert of CSIR-CIMFR also briefed the Committee about the recommendations. The Committee observed that the recommendation of CSIR-CIMFR are as follows:

(i) Design and operate the mine with a focus on minimizing dust generation during coal and Overburden (OB) production processes. Employ advanced technologies and engineering solutions to mitigate dust emissions at the source.

(ii) Implement transportation methods that prevent the exposure of dust to the ambient air. Utilize In-Pit Crushing and Conveying (IPCC) or High Angle Conveying (HAC) mechanisms for material handling and transport to minimize airborne dust.

(iii) Aim to transform the mine into a seldom blast and preferably dumper-free opencast mining by adopting cutting-edge technology for coal production, crushing and transport. This approach not only reduces dust emissions but also enhances work place ergonomics, operational efficiency, health hygiene and safety.

(iv) Implement a closed transportation system utilizing pipe conveyors or enclosed conveyors. This approach ensures that material transport is contained within a closed system, minimizing the dispersion of dust and pollutants into the surrounding environment.

(v) Implement a comprehensive green belt initiative, incorporating dense vegetation surrounding the mine site. This strategic green belt will act as a natural barrier, effectively reducing dust dispersion and minimizing noise pollution, thus mitigating the environmental impact on the surrounding community.

(vi) Mandate regular medical examinations, including spirometry tests, for all workers to monitor lung function and detect early signs of respiratory diseases. Conduct training sessions on proper respiratory hygiene and cough etiquette to prevent the spread of respiratory infections among workers.

(vii) Install proximity detection systems on heavy machinery to alert operators of nearby workers and prevent collisions and crush injuries. Establish designated walkways and traffic zones within the mining site to separate pedestrian and vehicle traffic and reduce the risk of accidents. Conduct ergonomic assessments of workstations and equipment to identify and mitigate ergonomic risk factors contributing to musculoskeletal injuries.

(viii) Provide Personal Protective Equipment (PPE) to all employees to mitigate residual impacts effectively. Ensure that PPE kits are regularly refreshed and samples are periodically tested to maintain their effectiveness in safeguarding the health and safety of workers against any potential hazards encountered during mining operations.

(ix) Implement a comprehensive hearing conservation program, including annual audiometric testing and noise exposure monitoring for all workers. Utilize advanced noise control technologies such as silencers, mufflers, and acoustic

enclosures to reduce noise emissions from equipment and machinery. Provide regular training sessions on the proper use and maintenance of hearing protection devices to ensure maximum effectiveness and compliance.

(x) Substitute hazardous chemicals with environmentally friendly alternatives wherever feasible to minimize the risk of chemical exposure to workers and the surrounding environment. Implement a chemical management system to track the handling, storage, and disposal of hazardous substances and ensure compliance with safety regulations. Conduct regular inspections and audits of chemical storage areas to identify and address potential leaks, spills, or contamination risks.

(xi) Offer stress management workshops and resilience training programs to help workers cope with the demands and challenges of mining work. Establish a peer support network or buddy system to encourage social connections and provide emotional support among workers. Promote work-life balance initiatives, and recreational activities to enhance overall well-being and job satisfaction.

(xii) Develop and regularly update emergency response plans and procedures to address potential mine accidents, including fires, explosions, and collapses.

(xiii) Conduct emergency response drills and simulations involving both onsite personnel and local emergency services to ensure readiness and coordination in the event of a crisis.

(xiv) Provide specialized training for designated emergency response teams to effectively handle emergency situations and assist with rescue and evacuation efforts.

(xv) Implement robust water management practices, including regular monitoring of water quality parameters such as pH, turbidity, and heavy metal concentrations.

(xvi) Implement a zero-water discharge policy and establish water bodies within the vicinity to facilitate the treatment and provision of water for the local community. Install sedimentation ponds and filtration systems to capture and treat runoff from mining activities before it enters local water bodies.

(xvii) Collaborate with local communities and regulatory authorities to establish a comprehensive water monitoring program to detect and mitigate any signs of contamination promptly.

(xviii) Implement land reclamation and rehabilitation measures, to restore disturbed areas and minimize erosion and sedimentation.

(xix) Establish buffer zones and conservation areas around sensitive ecological habitats to preserve biodiversity and ecosystem services in the surrounding area.

(xx) Conduct regular soil sampling and analysis to assess nutrient levels and soil health parameters and guide appropriate remediation and restoration efforts.

(xxi) Collaborate with local agricultural extension services and farmers to promote sustainable land management practices and mitigate the impact of mining on agricultural productivity.

(xxii) Establish a systematic approach to managing Overburden Dumps, Coal Dumps, Spoil Heaps, Reject Dumps, and Tailings Dumps to ensure minimal impact on soil and land fertility. Adhere to industry best practices and regulatory guidelines when siting and managing these dumps to safeguard soil quality and preserve land fertility throughout the mining operation's lifecycle.

(xxiii) Provide training and support to local farmers on safe agricultural practices, including proper irrigation techniques and soil management strategies.

The Committee asked the PP about a comparison of diseases in coal bearing area and non-coal bearing area. PP vide letter dated 05.07.2024 submitted village- wise data of diseases occurred in last three years from Gharghoda area (Non-Coal bearing area) & last one year (2023-24) from Tamnar area (Coal bearing area), obtained from Chief Medical Health Officer, Raigarh District. From the data submitted, it is observed that major diseases occurred in non-coal bearing area are TB, Leprosy, Sicle and Diarrhoea. No case has been reported of Silicosis. For coal bearing area major diseases are TB, Sickle cell, Diarrhoea and few cases of Malaria were found. It can be seen from above that the disease occurred in the coal bearing and non-coal bearing area are similar which shows that coal mining does not have much impact on the occurrence of diseases in the area.

The Committee observed that although there is no mining-specific disease in the data given by local health authorities but PP shall organise medical health camps to monitor the health status of the nearby community to keep a check on any mining-induced disease. Further, the Committee is of the view that PP shall provide free health facilities, medicines etc. to PAFs and nearby communities. Additionally, financial assistance is to be provided for critical illnesses such as cancer, organ failure/transplant etc. under CSR budget on a case-to-case basis. The Committee is of the view that these are in addition to the Occupational health plan required for mine workers as per the requirement of DGMS.

11) As desired by EAC, for the purpose of creating a strategy for the post-mining ecological restoration and conservation of the environment in relation to the Gare Palma-II coal mining project in Tamnar, Raigarh, Chhattisgarh, a study was conducted by IIT (ISM), Dhanbad. The study provides various measures that must be taken to reduce the impact of the mining industry on the surrounding ecosystem. Steps to reduce the impact on soil, water, air, wildlife, and ecology of the surrounding area has been suggested under the ecological protection/ restoration plan. The focus should be on the rapid afforestation plan, which is also an essential part of the restoration plan. During the meeting, PP

informed that a member of the study team from IIT (ISM) Dhanbad Prof. Vipin Kumar, IIT (ISM) Dhanbad, is available online for discussions on the salient features of the report. Prof. Vipin shared that a baseline study has been presented depicting the current on-ground conditions, including the list of flora and fauna in the area. The study provides various measures that must be taken care to reduce the impact of the mining industry on the soil, water, air, wildlife and ecology of the surrounding area. The restoration plan includes the process of rejuvenating the de-coaled area, using plantation. A process from the preparation of soil conditions to post-plantation monitoring and auditing has been suggested. Prof. Vipin said that the focus has to be on the rapid afforestation plan. The Plan submitted by IIT-ISM Dhanbad aims to minimize environmental degradation, enhance biodiversity conservation, and promote the ecological resilience of mining-affected areas. Prof. Vipin also shared the details of the site visit and the geology of the relevant area. The Committee noted that Ecological assessment of the area for flora and fauna was done by a team of experts in the field of botany, ecology, and environment by visiting the specific key locations in the area and interacting with the local forest officials and local community. Local senior citizens were employed for this specific project to help in the identification of fauna and flora both by direct and indirect methods. Information on animals and birds was also collected through interviews with the villagers of the core and buffer zones. Secondary data collection on local and native flora and fauna was also done using data from the Botanical Survey of India and Zoological Survey of India and other key plantation journals and survey records. The collected data was further corroborated with local forest officials and people community. The identification of the native flora species was done by field visit and help of cola authorities of the forest department. A list of major flora species in the core and buffer zone of the lease area is submitted in the report. Regarding fauna in the concerned region, the report suggests that the area is rich in fauna life. However, most of the species enumerated falls under the category of 'Least Concern' as per the IUCN classification of animal species. The report provides a list of fauna in the concerned area, which includes 5 Schedule-I species.

The report also entails the plan for topsoil removal, which will help to retain the fertility of the removed soil. The reports entails suggestions on soil conservation and protection, water management, afforestation and plantation drive, wildlife conservation rehabilitation program, mine closure and reclamation and monitoring and compliances. The report suggests that the topsoil of the area (at least up to 100 mm of depth) needs to be stripped from the designated areas and stored carefully before any mining activity of the open cast mine starts. The stored topsoil thereafter needs protection and prevention from eroding forces of nature, especially rainfall, till it is utilized as a surface dover in the stabilization or the reclamation stages. The piles of the overburden comprising of soil need to be maintained on the site with proper engineering and biological approaches to prevent soil erosion a loss. Additionally, the undisturbed areas of the soil, around the river, and the boundaries also need protection from natural forces. The report suggests that the soil management can thus be said to be vital for a) Facilitating the hydrological functioning of the mining area and augmenting the water quality of the Kelo River, b) Conservation of soil cover and arrest the soil erosion, flood, and siltation of the river and its tributaries and consequent relation of siltation in the river of Kelo and its reservoir, c) Soil conservation through biological & engineering measures to reduce sediment load in rivers and

tributaries, thus improving the quality of water and d) Increase vegetative cover and water-retaining properties.

The report has suggested various approaches for preserving soil moisture and preventing soil degradation. Further, regarding water management, the report entails the sources of water in the area and further includes water reclamation plan and water pollution control measures, river conservation plan, air quality management, afforestation and plantation drives, wildlife conservation and re-habitations, mine closure and reclamation and monitoring and compliances.

Further, the Committee noted that the report includes various suggestive measures to restore the ecology of the concerned area. The report also contains a list of possible plants for greenbelt plantation, based on the criteria of the block area. The Committee observed that the report entails various incredible suggestions regarding afforestation and greenbelt development, which the PP must include in its plantation programme.

The Committee observed that the report includes auditing parameters and their expected levels at different stages of mine restoration plans, which the PP must ensure to include in its restoration activities. The report includes *recommendations* based on the observations and discussions with the local authorities, which are as follows:

(i) It is important to emphasize that green belt development offers a solution to most of the environmental problem, including noise and air pollution and land deterioration. Thus, all important processes could be supported by plants as a barrier.

(ii) Revegetation in ex-mining lands not only protects the mine soil from degradation due to erosion but also improves the quality of the mine soil itself. Improving the quality of mine soil does not solely come from trees but also from the legume cover crops.

(iii) From the environmental perspective, means putting the land impacted by the mining activity back to a sustainable usable condition, the post mine revegetation should be sustainable, in the long term, under normal land management practices.

(iv) The afforestation and reclamation should be carried out in a way that promotes the growth of fruit-bearing trees, which will draw wildlife and preserve the region's biodiversity. In addition to fruit trees, various flowering plants should be planted to promote biodiversity and attract native and local creatures, including insects, birds, monkeys, and reptiles. Encouraging the growth of medicinal plants is also vital for the welfare of the surrounding villages. The vetiver plantations may also be encouraged because, in addition to their medicinal potential, the grass species has a high anchoring strength.

(v) Many restoration initiatives may be impacted by extreme weather events including storms, droughts, and heavy rain, thus it is important to plan ahead and prevent these effects. Future fire risk should be taken into account.

(vi) Seasonality and water availability are essential to a species' ability to establish, thrive, and survive. Drought risk should be considered while selecting a restoration site or determining which ecological components to repair.

(vii) In accordance with the guidelines outlined in the mine plan or scheme, the top soil should only be held temporarily at the designated site(s) and should not be left unused for longer than three years. Reclamation of land and plantation should be the proper uses for the topsoil. It is important to design top layers of dumps and batters of depleted mine workings so that the slope allows water to drain naturally while also protecting against erosion from water.

(viii) To stop silt and sediment flows from mine operations and OB dumps, suitable-sized catch drains and siltation ponds should be built. The green belt development can be irrigated with the water so gathered. The drains need to be adequately maintained and desilted on a regular basis, especially after the monsoon. When it's required to drain fertile soil-covered surfaces, drainage facilities (ditches) should be built such that the hazardous layers are completely covered. Use of appropriate protective materials is required to regulate the inflow and discharge of water. Wave movement must be prevented on the batter surfaces, particularly those that are close to and above sea level.

(ix) The characteristics of the soil used for reclamation and the anticipated usage of the area after reclamation determine how thick the covering topsoil layer is. For farmed fields, the biologically active layer of reclaimed soil should be at least 80 - 120 cm thick; for trees, it should be 120 - 200 cm thick.

(x) The establishment of native species is aided by the replacement of fertile overburden material, such as carefully excavated forest floor and topsoil from the cleared opencast working face (fore field), or other biologically active organic materials. It is important to take into account that managing the rootstocks and seeds that are already in the soil is hastening the processes of soil development, particularly the intended humus formation.

(xi) The status of the local flora and wildlife should be routinely observed throughout the year, taking note of variables such as the area covered by vegetation or plantations, the kind of plantations, the kinds of trees, grasses, and shrubs that are present, the spacing between plants, and the survival rate. It is important to make any changes occurring in the area evident. The State Forest and Wildlife Department should be consulted when conducting the study. The social impact perspective should be used to evaluate all reclamation plans. In order to keep an

eye on any potential alterations, environmental control measures should also be taken.

12) The Committee observed that it has mentioned in the EIA Report that a proposed alignment of the railway line (4.7 km) is passing through the block, the width of the corridor for the proposed railway line is 90m (45m on either side of tracks). During the Public Hearing held on 29.01.2016. MSPGCL has given the proposal for re-routing the alignment along the periphery of the block boundary citing the reason for blocking 0f 30Mt of coal reserves. The Committee is of the view that PP shall obtain permission from DGMS and concerned railway authorities before such diversion.

13) The Committee also deliberated on the site visit report dated 1/07/2024 submitted by the sub-committee constituted for this purpose vide order dated 17/05/2024. It is revealed from the report that the mining operation is yet to be started for this mine. The sub-committee also visited the Kelo River and in its report suggested that it should not be diverted. The report also mentioned the other mine which is operating at a much lower capacity than the sanctioned capacity. The report also suggested conducting a carrying capacity study and health study. The report concluded that the project may be considered for grant of EC when all the conditions/suggestions/requirements asked by the sub-committee will get completed. The Committee observed that PP has submitted the Carrying Capacity Report and Health Report. Further, there is no diversion of the Kelo River.

14) A site visit by a sub-committee of the EAC for detailed on-site appraisal was done from 17.05.2024 to 19.05.2024. The report of the site visit was discussed by the EAC as a part of the appraisal process. Comments received from the representative of RO, Raipur vide letter dated 27/06/2024 were also brought to the notice of the Chairperson Sub-committee who vide letter dated 10/07/2024 confirmed that the report submitted on 1/07/2024 (refer Annexure – VIII) is the final report. The Committee therefore accepted the report, which based on the ground assessment has recommended to EAC that EC may be granted.

15) The Committee noted that the PP has submitted an EMP Budget of Rs. 1484. 53 Crs (capital cost) and 14.84 Cr (recurring) in the form but in EIA in table 6.3 it has mentioned as 1484.53 Cr and no recurring cost is mentioned. Further, in Table 10.2 it annual cost is mentioned as 1484.54 Cr. Additionally, in chapter 11 in section 11.9 it has mentioned that EMP (Capital Cost) is Rs 148453.76 Lakh and recurring cost is 1557.06 Lakhs. The head-wise cost of EMP is as follows:

Heads	Activities	Amount
Progressive Closure		
Safety and Security	Barbed wire fencing	84.10
	Toe wall around the dump	90.10
	Garland drain around the dump	45.14
	Drainage channel from main OB dump and main sump to Nala	300.50

	Settling pond	80.00
	Securing Air Shaft and installation of bore well pump	20.00
	Securing of incline 1&2	10.00
	Fire stoppings	1328.60
Top soil Management		5628.00
Technical and biological reclamation of mined out land and OB dump	Reclamation	8884.00
	Re-handling of crown dump to East pit	12858.00
	Re-handling of crown dump to West pit	72432.00
Plantation over virgin area including Green Belt	Plantation/Green Belt over virgin Area	143.44
Water quality management		340.00
Air quality management		340.00
Subsidence monitoring		19.09
Manpower cost and supervision		163.50
Sub Total		102766.47
Final Closure		
Dismantling of infrastructure, disposal/rehabilitation of mining machinery	Dismantling of workshop	300.00
	Dismantling of CHP	500.00
	Dismantling of facilities	1000.00
	Dismantling of pumps and Pipes	45.00
	Dismantling of UG facilities including main fan	100.00
	Dismantling of UG Conveyors	300.00
	Dismantling of UG Rail tracks	150.00
	Dismantling of UG equipment	200.00
	Re-arranging of water pipelines to dump top, park	15.00
	Dismantling of power line	30.00
	Rehabilitation over area of dismantled facilities	203.76
Top soil management		955.00
Technical and biological reclamation of mined out land and OB dump	Reclamation	1659.12
	Rehandling of crown dump to East pit	30822.00
	Rehandling of crown dump to West pit	8943.00

Landscaping and Plantation	Peripheral road, gates, view point, cemented steps on bank	40.00
	Beautification and landscaping over dump	20.00
	Plantation	35.00
Power cost		40.00
Water quality management		12.00
Air quality management		12.00
Subsidence monitoring		0.91
Manpower cost and supervision		4.50
Others, Miscellaneous	Entrepreneurship development (vocational skill development, training for sustainable income of affected people	100.00
	One time financial grant to society/institution/organization which is dependent upon the project	50.00
	Continuation of other services like running of schools etc.	150.00
Sub Total		45687.29
Grand Total		148453.76

PP submitted that a greenbelt will be developed in 36.07 Ha. A 7.5 m wide greenbelt, consisting of at least 3 tiers around mine boundary will be developed as greenbelt and green cover as per CPCB/MoEF&CC. Local and native species will be planted with a density of 2500 trees per hectare. Total no. of 5641500 saplings in 2256.60 ha area will be planted and nurtured in hectares in 32 years. PP submitted that total area brought under plantation will be 2256.60 Ha which includes [194.76 Ha (external dump within lease area); 2025.77 Ha Plantation in backfilled area and 36.07 Ha Safety zone and greenbelt]. The density of tree plantation will be 2500 sapling/Ha. The budget proposed for the same is Rs 35.0 Lakh. The Committee observed that cost of the plantation is very low and PP shall submit the revised budget for the same as per actual. The Committee is of the view that EMP cost shall also be revised to implement the recommendations made in various study reports.

17) The EAC has also taken into consideration additional information for appraisal such as additional hydrogeological study; health impacts of the proposed mine including health study which also took into account the ICMR study and the information about the prevalent local disease data of the area supplied by state health authorities (as asked for by the EAC); additional carrying capacity study; revised EMP/ EIA; fresh baseline data; mathematical modelling using TMY data and site specific data rather than standard data; Comprehensive Environmental Pollution Index (CEPI data) & CAAQMS data; socio-

economic study;Ecology of the surrounding area and post-mining ecological restoration; NEERI report; site visit and public hearing/consultation process including NOC from various gram sabhas (based on gram sabha meetings conducted for FC clearance) while re-appraising this proposal.

18) Based on the discussions held and the documents submitted, the EAC ***recommended*** *the proposal for Environment Clearance of Gare Palma Sector II Coal Mine Project of 23.6 MTPA Capacity (22.0 MTPA Opencast + 1.6 MTPA Underground) within the mining lease area of 2583.487 Ha located at Thili Rampur, Kunjemura, Gare, Saraitola, Murogaon, Radopali, Pata, Chitwahi, Dholnara, JhinkaBahal, Dolesara, Bhalumura, Sarasmal and Libra villages, Tamnar Tehsil, Raigarh District, Chhattisgarh State by of Maharashtra State Power Generation Company Ltd (*MAHAGENCO*) under EIA Notification, 2006 (as amended) subject to the compliance of the following specific conditions in addition to the Standard EC conditions.*

Specific conditions:

1) *The project proponent shall obtain Consent to Establish/Operate from the State Pollution Control Boards for the proposed peak capacity of 23.60 MTPA (OC-22.0 MTPA+UG-1.6 MTPA) prior to the commencement.*

2) *NoC from Central Ground Water Authority (CGWA)/ concerned local authority, as the case may be, shall be obtained before drawing the groundwater for the project activities, state pollution control board/pollution control committees shall not issue the consent to operate (CTO) under Air (prevention and control of Pollution) Act and Water (Air (prevention and control of Pollution) Act till the project proponent shall obtain such permission.*

3) *The PP shall implement the following recommendations made in the* ***Hydrogeology & Embankment Design report of IIT (ISM) Dhanbad.*** *PP shall install water meters at all intake points and take specific measures for reduction in water consumption and generation of alternative sources of water through rainwater harvesting measures. PP shall monitor the water quality surface as well as groundwater for the presence of heavy metals. Immediate mitigation measures will be adopted if water quality deteriorates. Safe drinking water shall be supplied to all residents of the ML area. Water audit needs to be done every year by a reputed institute for further reduction of water consumption and PP shall implement its recommendations and submit a report to RO annually.*

   a) *Provision of garland drains around pit, dump and backfilled area and embankment.*

   b) *Discharge from Garland drain shall be connected to settling pond/reservoir before discharging into Kelo river for controlling sediment load.*

   c) *The water seeping into the mine shall be collected in mine sump, pumped to surface reservoir where the sediments shall be separated through gravity separation technique. The surface overflow from these reservoirs after suitable treatment shall be recycled for various end uses i.e. drinking water for the*

community, irrigation and industrial requirements like sprinkling on haul roads, cleaning and washing of vehicles etc.

d) *During mining a statutory barrier of 100 m is required to be left between the mine workings and the Kelo river bank. The embankment shall be constructed along the banks of the Kelo river, as per the detailed design and alignment given in the report. The height of the embankment shall vary from 2 m to 9 m on the right bank and from 4m to 9m on the left bank.*

e) *It is further planned to strengthen the embankment on riverside by placing large boulders in wire net bags to prevent erosion and damage to the embankment by floods in river/nala besides grouting any weak portions of the embankment. The embankment will also be stabilised by road rollers and vibrators followed by plantation of grass and bushes all over to prevent soil erosion.*

f) *The HDPE geomembrane lining in the embankment will provide puncture and tear resistance, resistance to acids, bases, salts, and organic chemicals, low permeability to water and gases and stability against environmental stress cracking.*

g) *The apron provided at the base of the embankment will help in considerably reducing the seepage through the base of the embankment. In addition, the central core layer will have interlocking arrangement at the base to avoid seepage from the base specially during the occurrence high flood events.*

h) *The possibility of an AI/IOT based real-time water quality and flow monitoring system integrated with online sensor may be explored in Kelo river and Mine water reservoir to keep online track of mine water quality and Kelo river along with the measurement of Kelo river flow, velocity and depth of water. AI inbuild system will help in providing early warning for any un-precedented flood (Flood alert system) & deterioration in water quality well in advance to adopt all proactive measures to minimise the risk.*

4) *PP shall submit the study conducted by IIT Dhanbad to State Water Department and obtain permission before diversion of two nalas, one on the west side (Nala A) and one on the East side (Kamara nala) of Kelo river.*

5) *The total water requirement is 2785 KLD and the net water requirement is 1785 KLD. The total water requirement will be met by bore-wells at site during the initial 2-3 years after which the mine water will be used after appropriate treatment as required. The total industrial water demand (peak) in operation phase shall be met by utilizing treated mine discharge water. If required, necessary arrangement shall be made to reuse treated water from STP & ETP to nearby TPP or coal washery or future coal washery by entering suitable agreement. No wastewater (treated or untreated) shall be discharged into the river or any other water body.*

6) *Water quality and Bioassay tests of kelo shall be monitored quarterly and submitted to the State Pollution Control Board. No waste shall be discharged into the river. Quarterly monitoring of the quality of water from bore wells used for drinking purposes shall be conducted and a report thereof shall be submitted to SPCB.*

7) *All the villages coming under the zone of influence as in the hydrology study shall be provided with suitable water supply along with sanitation facilities.*

8) PP shall implement the recommendations of NEERI Report within the lease area.

9) *The social fabric of the area needs to be kept intact, accordingly, the R&R plans should be made such that the Cultural and religious beliefs of the locals are protected. Further, PP shall prepare and implement a mitigative plan based on the guiding principles provided in the Socio-Economic Report prepared by the Entrepreneurship Development Institute of India, Ahmedabad (EDII) within six months. The budget proposed for addressing the issues of PH under CER as per the last EC was 45.35 Cr for 5 years. PP shall ensure that sufficient funds shall be allocated for the same keeping in mind that activities are to be carried out for at least 10 years. PP shall submit a time-bound, activity-wise plan with budgetary provisions to the Ministry. After preparation of the plan, PP shall submit the action taken with documentary proof viz. photographs, the amount spent etc. to the concerned RO in six monthly compliance reports. Separate audited accounts shall be maintained. All the recommendations made in the Socio-economic & Social Impact Assessment study shall be complied within a stringent timeframe. The timeline should be submitted to the District Collector for necessary action points*.

10) *All the recommendations made in the Socio-economic & Social Impact Assessment study shall be complied within a stringent timeframe. The timeline should be submitted to the District Collector for necessary action points*.

11) PP shall implement the following recommendations made in **CSIR-CIMFR report *"Advice on mitigation*** *measures to be adopted for the villagers of the GPII coal block area in Tamnar, District Raigarh, Chhattisgarh.":*

    a) *Design and operate the mine with a focus on minimizing dust generation during coal and Overburden (OB) production processes. Employ advanced technologies and engineering solutions to mitigate dust emissions at the source.*

    b) *Implement transportation methods that prevent the exposure of dust to the ambient air. Utilize In-Pit Crushing and Conveying (IPCC) or High Angle Conveying (HAC) mechanisms for material handling and transport to minimize airborne dust.*

c) *Aim to transform the mine into a seldom blast and preferably dumper-free opencast mining by adopting cutting-edge technology for coal production, crushing and transport. This approach not only reduces dust emissions but also enhances work place ergonomics, operational efficiency, health hygiene and safety.*

d) *Implement a closed transportation system utilizing pipe conveyors or enclosed conveyors. This approach ensures that material transport is contained within a closed system, minimizing the dispersion of dust and pollutants into the surrounding environment.*

e) *Implement a comprehensive green belt initiative, incorporating dense vegetation surrounding the mine site. This strategic green belt will act as a natural barrier, effectively reducing dust dispersion and minimizing noise pollution, thus mitigating the environmental impact on the surrounding community.*

f) *Mandate regular medical examinations, including spirometry tests, for all workers to monitor lung function and detect early signs of respiratory diseases. Conduct training sessions on proper respiratory hygiene and cough etiquette to prevent the spread of respiratory infections among workers.*

g) *Install proximity detection systems on heavy machinery to alert operators of nearby workers and prevent collisions and crush injuries. Establish designated walkways and traffic zones within the mining site to separate pedestrian and vehicle traffic and reduce the risk of accidents. Conduct ergonomic assessments of workstations and equipment to identify and mitigate ergonomic risk factors contributing to musculoskeletal injuries.*

h) *Provide Personal Protective Equipment (PPE) to all employees to mitigate residual impacts effectively. Ensure that PPE kits are regularly refreshed and samples are periodically tested to maintain their effectiveness in safeguarding the health and safety of workers against any potential hazards encountered during mining operations.*

i) *Implement a comprehensive hearing conservation program, including annual audiometric testing and noise exposure monitoring for all workers. Utilize advanced noise control technologies such as silencers, mufflers, and acoustic enclosures to reduce noise emissions from equipment and machinery. Provide regular training sessions on the proper use and maintenance of hearing protection devices to ensure maximum effectiveness and compliance.*

j) *Substitute hazardous chemicals with environmentally friendly alternatives wherever feasible to minimize the risk of chemical exposure to workers and the surrounding environment. Implement a chemical management system to track the handling, storage, and disposal of hazardous substances and ensure compliance with safety regulations. Conduct regular inspections and audits of*

chemical storage areas to identify and address potential leaks, spills, or contamination risks.

k) *Offer stress management workshops and resilience training programs to help workers cope with the demands and challenges of mining work. Establish a peer support network or buddy system to encourage social connections and provide emotional support among workers. Promote work-life balance initiatives, and recreational activities to enhance overall well-being and job satisfaction.*

l) *Develop and regularly update emergency response plans and procedures to address potential mine accidents, including fires, explosions, and collapses.*

m) *Conduct emergency response drills and simulations involving both onsite personnel and local emergency services to ensure readiness and coordination in the event of a crisis.*

n) *Provide specialized training for designated emergency response teams to effectively handle emergency situations and assist with rescue and evacuation efforts.*

o) *Implement robust water management practices, including regular monitoring of water quality parameters such as pH, turbidity, and heavy metal concentrations. Since there is a reported presence of arsenic in the area, this should be specifically monitored in the ML area and the residents provided with safe drinking water.*

p) *Implement a zero-water discharge policy and establish water bodies within the vicinity to facilitate the treatment and provision of water for the local community. Install sedimentation ponds and filtration systems to capture and treat runoff from mining activities before it enters local water bodies.*

q) *Collaborate with local communities and regulatory authorities to establish a comprehensive water monitoring program to detect and mitigate any signs of contamination promptly.*

r) *Implement land reclamation and rehabilitation measures, to restore disturbed areas and minimize erosion and sedimentation.*

s) *Establish buffer zones and conservation areas around sensitive ecological habitats to preserve biodiversity and ecosystem services in the surrounding area.*

t) *Conduct regular soil sampling and analysis to assess nutrient levels and soil health parameters and guide appropriate remediation and restoration efforts.*

u) *Collaborate with local agricultural extension services and farmers to promote sustainable land management practices and mitigate the impact of mining on agricultural productivity.*

v) *Establish a systematic approach to managing Overburden Dumps, Coal Dumps, Spoil Heaps, Reject Dumps, and Tailings Dumps to ensure minimal impact on soil and land fertility. Adhere to industry best practices and regulatory guidelines when siting and managing these dumps to safeguard soil quality and preserve land fertility throughout the mining operation's lifecycle.*

w) *Provide training and support to local farmers on safe agricultural practices, including proper irrigation techniques and soil management strategies.*

12) *PP shall review the outcome of the skill development programs whether it is providing any benefit or not, and whether it helps the community in getting job/business opportunities. PP shall align the activities as per the present-day needs. The skilled beneficiaries shall be aided in job placements and self-employment ventures by the PP and a record of this shall be maintained. A report in this regard shall be submitted to the concerned RO within 6 months.*

13) *PP shall carry out a survey of the impact of blasting in the nearby area/villages by involving a reputed institute and take remedial measures as proposed by the respective institute. Further, provide compensation if any for any damage caused.*

14) *PP shall implement the following recommendations made in the report **"Plan for the protection of the ecology and post-mining ecological restoration plan for the Gare Palma-II coal mine project**, Tamnar, Raigarh, Chhattisgarh", prepared by ISM Dhanbad:*

a) *It is important to emphasize that green belt development offers a solution to most of the environmental problem, including noise and air pollution and land deterioration. Thus, all important processes could be supported by plants as a barrier.*

b) *Revegetation in ex-mining lands not only protects the mine soil from degradation due to erosion but also improves the quality of the mine soil itself. Improving the quality of mine soil does not solely come from trees but also from the legume cover crops.*

c) *From the environmental perspective, means putting the land impacted by the mining activity back to a sustainable usable condition, the post mine revegetation should be sustainable, in the long term, under normal land management practices.*

d) *The afforestation and reclamation should be carried out in a way that promotes the growth of fruit-bearing trees, which will draw wildlife and preserve the region's biodiversity. In addition to fruit trees, various flowering*

plants should be planted to promote biodiversity and attract native and local creatures, including insects, birds, monkeys, and reptiles. Encouraging the growth of medicinal plants is also vital for the welfare of the surrounding villages. The vetiver plantations may also be encouraged because, in addition to their medicinal potential, the grass species has a high anchoring strength.

e) *Many restoration initiatives may be impacted by extreme weather events including storms, droughts, and heavy rain, thus it is important to plan ahead and prevent these effects. Future fire risk should be taken into account.*

f) *Seasonality and water availability are essential to a species' ability to establish, thrive, and survive. Drought risk should be considered while selecting a restoration site or determining which ecological components to repair.*

g) *In accordance with the guidelines outlined in the mine plan or scheme, the top soil should only be held temporarily at the designated site(s) and should not be left unused for longer than three years. Reclamation of land and plantation should be the proper uses for the topsoil. It is important to design top layers of dumps and batters of depleted mine workings so that the slope allows water to drain naturally while also protecting against erosion from water.*

h) *To stop silt and sediment flows from mine operations and OB dumps, suitable-sized catch drains and siltation ponds should be built. The green belt development can be irrigated with the water so gathered. The drains need to be adequately maintained and desilted on a regular basis, especially after the monsoon. When it's required to drain fertile soil-covered surfaces, drainage facilities (ditches) should be built such that the hazardous layers are completely covered. Use of appropriate protective materials is required to regulate the inflow and discharge of water. Wave movement must be prevented on the batter surfaces, particularly those that are close to and above sea level.*

i) *The characteristics of the soil used for reclamation and the anticipated usage of the area after reclamation determine how thick the covering topsoil layer is. For farmed fields, the biologically active layer of reclaimed soil should be at least 80 - 120 cm thick; for trees, it should be 120 - 200 cm thick.*

j) *The establishment of native species is aided by the replacement of fertile overburden material, such as carefully excavated forest floor and topsoil from the cleared opencast working face (fore field), or other biologically active*

organic materials. It is important to take into account that managing the rootstocks and seeds that are already in the soil is hastening the processes of soil development, particularly the intended humus formation.

k) *The status of the local flora and wildlife should be routinely observed throughout the year, taking note of variables such as the area covered by vegetation or plantations, the kind of plantations, the kinds of trees, grasses, and shrubs that are present, the spacing between plants, and the survival rate. It is important to make any changes occurring in the area evident. The State Forest and Wildlife Department should be consulted when conducting the study. The social impact perspective should be used to evaluate all reclamation plans. In order to keep an eye on any potential alterations, environmental control measures should also be taken.*

15) *Progressive backfilling of the mine and progressive reclamation of the OB dump shall be done as per the approved mine closure plan & as per the recommendation of the eco-restoration report.*

16) *The project proponent shall take all precautionary measures during mining operations for the conservation and protection of endangered fauna, if any, spotted in the study area. Wildlife Management Plan prepared and approved by PCCF, WL vide letter no. 494/12, dated 20.01.2021 shall be implemented in consultation with the State Forest and Wildlife Department. The budget earmarked for WLCP is Rs 344.40 Lakh. PP shall deposit the amount of WLCP in the Government account as approved by the concerned authority.*

17) *PP shall implement the following recommendations made in the Carrying Capacity Report undertaken by CECB, Chhattisgarh through IIT-Patna as applicable for the said mines which include:*

a) *Coal and fly ash transportation is not permitted on any village road. All industrial roads need to be paved with concrete/asphalt and properly maintained with timely repairs.*

b) *Regular water sprinkling work to be taken place on all industrial roads.*

c) *Mine should have a wheel washing system at all entrance and exit points.*

d) *Railway siding needs to adhere to CPCB regulations and should include rain guns, wind-breaking walls, sprinklers, parking lots, access roads, drainage facilities, settling pits, etc.*

e) *If coal is being transported by road, transporters should be charged a surcharge based on their distance and time travelled for the purpose of road maintenance and repair. Plantation should be done along such roads.*

f) *CAAQMS must be installed in almost every village of Tamnar block and consistently connected to the state pollution control board according to CPCB guidelines.*

18) *Third-party audit (by NEERI/CIMFR/IIT/NITs) for air & water quality shall be carried out annually to keep a check on the same. PP shall implement the recommendations of the audit and submit the outcome of the audit to the concerned RO of MoEF&CC.*

19) *As per NGT order dated 15.02. 2022 in Original Application No. 104'2018 in the matter of Shivpal Bhagat & Ors vs UIO, PP to i) comply with all the recommendation of Carrying Capacity Study being conducted by reputed institute by CPCB & SPCB, ii) Coal transportation is permitted for only one year through road from date of commissioning and subsequently. transport must be done by rail or closed conveyor belt only, iii) proper and free health care facilities with multispecialty treatment system shall be provided in coal mine buffer area, iv) when coal is sold to TPP there is the agreement to sell that at least 25% Fly Ash of the coal sold should be accepted by the coal company (seller) from TPP(Purchaser) failing which coal company shall be liable for civil action and other legal measures.*

20) *PP shall ensure that all types of plastic waste generated from the mines shall be stored separately in isolated areas and disposed of strictly adhering to the Plastic Waste Management Rules 2016. In pursuant to the Ministry's OM dated 18/07/2022, PP shall also create awareness among the people working in the project area as well as in its surrounding area on the ban on Single Use Plastic(SUP) in order to ensure compliance of the Ministry's Notification published by the Ministry on 12/08/2021. A report along with the photographs of the measures taken shall also be included in the six monthly compliance reports being submitted by PP.*

21) *PP shall obtain a 5-star rating in terms of Environment Compliance from the Ministry of Coal as per the rating system implemented by the Ministry of Coal.*

22) *PP shall ensure that No OB dumping is done outside the lease area.*

23) *PP shall submit an action plan for using and developing Renewable Energy for its consumption in its utilities/machinery/equipment instead of using electricity from Grid/generated from Thermal Power Plants. PP shall Install additional solar power generation units.*

24) *The Committee is of the view as the forest is at a distance of 100 meters PP shall create a natural wind barrier between the lease boundary and the forest area by developing a dense green belt. Impact on the forest land shall be studied/monitored at regular intervals and a report shall be submitted to RO.*

25) *PP shall carry out plantation in an area of 2256.60ha area and plant a minimum of 5641500 saplings. The density of the tree plantation shall be maintained at 2500 saplings/Ha. The budget proposed for the same is Rs 35.0 Lakh the same needs to be increased as per the actual plantation & maintenance cost. After completion of the tree plantation. number of trees shall be duly endorsed by the District Forest Officer.*

26) *PP shall speed up concurrent Green Belt development so as to achieve the targets within the next 3 years. The green belt and plantation plan submitted in the EIA/EMP shall be implemented in a time-bound manner. A survival rate of at least 80% shall be maintained by carrying out gap plantation in case of mortality. The budget earmarked for the plantation shall be kept in a separate account. PP should annually submit the audited statement of expenditure along with proof of activities viz. photographs (before & after with geolocation date & time), details of expert agency engaged, details of species planted, number of species planted, survival rate, density of plantation etc. to the Regional Office of MoEF&CC and on PARIVESH Portal as the case may be for the activities carried out during previous year.*

27) *The plantations done by the PP need to be adequately densified and audited by a third party preferably a forestry institution of MoEFCC (e.g. ICFRE) to assess their efficacy.*

28) *To control the production of dust at the source, the crusher and in-pit belt conveyors shall be provided with mist-type sprinklers. Mitigating measures shall be undertaken to control dust and other fugitive emissions all along the roads by providing sufficient fixed-type water sprinklers. Adequate corrective measures shall be undertaken to control dust emissions, which would include mechanized sweeping, water sprinkling/mist spraying on haul roads and loading sites, long-range misting/fogging arrangement, wind barrier wall and vertical greenery system, green belt, dust suppression arrangement at loading and unloading points etc.*

29) *The annual EMP budget is Rs 148453.76 Lakh (Table 10.2 of EIA Report) shall be kept in a separate account and audited annually. If required, the same shall be increased. PP shall submit the proof (viz. photographs, reports etc.) of activities taken under EMP and the amount spent to the concerned RO in six monthly compliance reports.*

30) *Continuous monitoring of occupational safety and other health hazards and corrective actions need to be ensured.*

31) *PP shall obtain the permission of the State Public Works Department before the proposed for diversion Roads from Bajamura to Ghargoda (approx. 11.6 km) and Milupara to Tamnar (app 3 km).*

32) *Persons of nearby villages shall be given training on livelihood and skill development to make them employable.*

33) *Mining shall be carried out only by surface miners for the project and silo loading till railway siding through in-pit conveyor should be installed to avoid road transportation in 2 years.*

34) *Efforts shall be made for utilizing alternate sources of surface water, abandoned*

mines or else whatsoever and thus minimizing the dependability on a single source.

35) *Active OB Dump should not be kept barren/open and should be covered by temporary grass to avoid air born of particles*

36) *PP shall conduct the stability study of OB dump by reputed agencies and necessary approval of DGMS.*

37) *Project Proponent shall obtain blasting permission from DGMS for conducting mining operation near villages and also explore deployment of rock breakers of suitable capacity in the project to avoid blasting very near to villages. There shall be no damages caused to habitation/structures due to blasting activity.*

38) *Proponent shall appoint an Occupational Health Specialist for Regular and Periodical medical examination of the workers engaged in the Project and maintain records accordingly; also, Occupational health check-ups for workers having some ailments like BP, diabetes, habitual smoking, etc. shall be undertaken once in six months and necessary remedial/preventive measures taken accordingly. The recommendations of National Institute for ensuring good occupational environment for mine workers shall be implemented; The prevention measure for burns, malaria and provision of anti-snake venom including all other paramedical safeguards may be ensured before initiating the mining activities.*

39) *Project Proponent shall follow the mitigation measures provided in Office Memorandum No. Z-11013/57/2014-IA.II (M), dated 29th October, 2014. titled "Impact of mining activities on Habitations-Issues related to the mining Projects wherein Habitations and villages are the part of mine lease areas or Habitations and villages are surrounded by the mine lease area".*

40) *The illumination and sound at night at project sites disturb the villages in respect of both human and animal populations. Consequent sleeping disorders and stress may affect the health in the villages located close to mining operations. Habitations have a right for darkness and minimal noise levels at night. PP must ensure that the biological clock of the villages is not disturbed by orienting the floodlights/ masks away from the villagers and keeping the noise levels well within the prescribed limits for day' light/night hours.*

41) *PP shall obtain permission from DGMS and concerned railway authorities before diversion/re-alignment of railway line and comply with the conditions/recommendations of the approval so obtained.*

42) *PP is advised to implement the 'Ek Ped Maa Ke Naam' Campaign which was launched*

on 5th June 2024 on the occasion of the World Environment Day to increase the forest cover across the Country. This plantation drive is other than Green belt development. The action in this regard shall be submitted concerned RO in six monthly report.

43) PP shall gradually shift to e-vehicles/ LNG/CNG transport for men and materials.

Annexure-I

Standard EC Conditions for Coal Mining Project (Opencast mining):

All the projects recommended for grant of environmental clearance by the EAC shallalso comply with the following Standard EC conditions as per Ministry's circular issued from time to time:

(a) Statutory compliance

(i) The project proponent shall obtain forest clearance under the provisions of Forest (Conservation) Act, 1986, in case of the diversion of forest land for non-forest purpose involved in the project.

(ii) The project proponent shall obtain clearance from the National Board for Wildlife, if applicable.

(iii) The project proponent shall prepare a Site-Specific Conservation Plan / Wildlife Management Plan and approved by the Chief Wildlife Warden. The recommendations of the approved Site-Specific Conservation Plan/Wildlife Management Plan shall be implemented in consultation with the State Forest Department. The implementation report shall be furnished along with the six-monthly compliance report (in case of the presence of Schedule-I species in the study area).

(iv) The project proponent shall obtain Consent to Establish/Operate under the provisions of Air (Prevention & Control of Pollution) Act, 1981 and the Water (Prevention & Control of Pollution) Act, 1974 from the concerned State Pollution Control Board/ Committee.

(v) The project proponent shall obtain the necessary permission from the Central Ground Water Authority.

(vi) Solid/hazardous waste generated in the mines needs to addressed in accordance to the Solid Waste Management Rules, 2016/Hazardous & Other Waste Management Rules, 2016.

(b) Air quality monitoring and preservation

(i) Continuous ambient air quality monitoring stations as prescribed in the statue

be established in the core zone as well as in the buffer zone for monitoring of pollutants, namely PM10, PM2.5, SO2 and NOx. Location of the stations shall be decided based on themeteorological data, topographical features and environmentally and ecologically sensitive targets in consultation with the State Pollution Control Board. Online ambient air quality monitoring stations may also be installed in addition to the regular monitoring stations as per the requirement and/or in consultation with the SPCB. Monitoring of heavy metals such as Hg, As, Ni, Cd, Cr, etc to be carried out at least once in six months.

(ii) The Ambient Air Quality monitoring in the core zone shall be carried out to ensure the Coal Industry Standards notified vide GSR 742 (E) dated 25th September, 2000 and as amended from time to time by the Central Pollution Control Board. Data on ambient air quality and heavy metals such as Hg, As, Ni, Cd, Cr and other monitoring data shall be regularly reported to the Ministry/Regional Office and to the CPCB/SPCB.

(iii) Transportation of coal, to the extent permitted by road, shall be carried out by covered trucks/conveyors. Effective control measures such as regular water/mist sprinkling/rain gun etc shall be carried out in critical areas prone to air pollution (with higher values of PM10/PM2.5) such as haul road, loading/unloading and transfer points. Fugitive dust emissions from all sources shall be controlled regularly. It shall be ensured that the Ambient Air Quality parameters conform to the norms prescribed by the Central/State Pollution Control Board.

(iv) The transportation of coal shall be carried out as per the provisions and route envisaged in the approved Mining Plan or environment monitoring plan. Transportation of the coal through the existing road passing through any village shall be avoided. In case, it is proposed to construct a 'bypass' road, it should be so constructed so that the impact of sound, dust and accidents could be appropriately mitigated.

(v) Vehicular emissions shall be kept under control and regularly monitored. All the vehicles engaged in mining and allied activities shall operate only after obtaining ‘PUC’ certificate from the authorized pollution testing centres.

(vi) Coal stock pile/crusher/feeder and breaker material transfer points shall invariably be provided with dust suppression system. Belt-conveyors shall be fully covered to avoid airborne dust. Side cladding all along the conveyor gantry should be made to avoid air borne dust. Drills shall be wet operated or fitted with dust extractors.

(vii) Coal handling plant shall be operated with effective control measures w.r.t. various environmental parameters. Environmental friendly sustainable technology should be implemented for mitigating such parameters.

(c) Water quality monitoring and preservation

(i) The effluent discharge (mine waste water, workshop effluent) shall be monitored in terms of the parameters notified under the Water Act, 1974 Coal Industry Standards vide GSR 742 (E) dated 25th September, 2000 and as amended from time to time by the Central Pollution Control Board.

(ii) The monitoring data shall be uploaded on the company's website and displayed at the project site at a suitable location. The circular No. J-20012/1/2006-IA.11 (M) dated 27th May, 2009 issued by Ministry of Environment, Forest and Climate Change shall also be referred in this regard for its compliance.

(iii) Regular monitoring of ground water level and quality shall be carried out in andaround the mine lease area by establishing a network of existing wells and constructing new piezometers during the mining operations. The monitoring of ground water levels shall be carried out four times a year i.e. pre-monsoon, monsoon, post-monsoon and winter. The ground water quality shall be monitored once a year, and the data thus collected shall be sent regularly to MOEFCC/RO.

(iv) Monitoring of water quality upstream and downstream of water bodies shall be carried out once in six months and record of monitoring data shall be maintained and submitted to the Ministry of Environment, Forest and Climate Change/Regional Office.

(v) Ground water, excluding mine water, shall not be used for mining operations. Rainwater harvesting shall be implemented for conservation and augmentation of ground water resources.

(vi) Catch and/or garland drains and siltation ponds in adequate numbers and appropriate size shall be constructed around the mine working, coal heaps & OB dumps to prevent run off of water and flow of sediments directly into the river and water bodies. Further, dump material shall be properly consolidated/ compacted and accumulation of water over dumps shall be avoided by providing adequate channels for flow of silt into the drains. The drains/ ponds

so constructed shall be regularly de-silted particularly before onset of monsoon and maintained properly. Sump capacity should provide adequate retention period to allow proper settling of silt material. The water so collected in the sump shall be utilised for dust suppression and green belt development and other industrial use. Dimension of the retaining wall constructed, if any, at the toe of the OB dumps within the mine to check run-off and siltation should be based on the rainfall data. The plantation of native species to be made between toe of the dump and adjacent field/habitation/water bodies.

(vii) Adequate groundwater recharge measures shall be taken up for augmentation of ground water. The project authorities shall meet water requirement of nearby village(s) after due treatment conforming to the specific requirement (standards).

(viii) Industrial waste water generated from CHP, workshop and other waste water, shall be properly collected and treated so as to conform to the standards prescribed under the standards prescribed under Water Act 1974 and Environment (Protection) Act, 1986 and the Rules made there under, and as amended from time to time. Adequate ETP /STP needs to be provided.

(ix) The water pumped out from the mine, after siltation, shall be utilized for industrial purposive. watering the mine area, roads, green belt development etc. The drains shall be regularly desilted particularly after monsoon and maintained properly.

(x) The surface drainage plan including surface water conservation plan for the area of influence affected by the said mining operations, considering the presence of river/rivulet/pond/lake etc, shall be prepared and implemented by the project proponent. The surface drainage plan and/or any diversion of natural water courses shall be as per the approved Mining Plan/EIA/EMP report and with due approval of the concerned State/GoI Authority. The construction of embankment to prevent any danger against inrush of surface water into the mine should be as per the approved Mining Plan and as per the permission of DGMS or any other authority as prescribed by the law.

(xi) The project proponent shall take all precautionary measures to ensure riverine/riparian ecosystem in and around the coal mine up to a distance of 5 km. A riverine/riparian ecosystem conservation and management plan should be prepared and implemented in consultation with the irrigation / water resource department in the state government.

(d) Noise and Vibration monitoring and prevention

(i) Adequate measures shall be taken for control of noise levels as per Noise Pollution Rules,2016 in the work environment. Workers engaged in blasting and drilling operations, operation of HEMM, etc shall be provided with personal protective equipments (PPE) like ear plugs/muffs in conformity with the prescribed norms and guidelines in this regard. Adequate awareness programme for users to be conducted. Progress in usage of such accessories to be monitored.

(ii) Controlled blasting techniques shall be practiced in order to mitigate ground vibrations, fly rocks, noise and air blast etc., as per the guidelines prescribed by the DGMS.

(iii) The noise level survey shall be carried out as per the prescribed guidelines to assess noise exposure of the workmen at vulnerable points in the mine premises, and report in this regard shall be submitted to the Ministry/RO on six-monthly basis.

(e) Mining Plan

(i) Mining shall be carried out under strict adherence to provisions of the Mines Act 1952 and subordinate legislations made there-under as applicable.

(ii) Mining shall be carried out as per the approved mining plan (including Mine Closure Plan) abiding by mining laws related to coal mining and the relevant circulars issued by Directorate General Mines Safety (DGMS).

(iii) No mining shall be carried out in forest land without obtaining Forestry Clearance as per Forest (Conservation) Act, 1980.

(iv) (ii) Efforts should be made to reduce energy and fuel consumption by conservation, efficiency improvements and use of renewable energy.

(f) Land reclamation

(i) Digital Survey of entire lease hold area/core zone using Satellite Remote Sensing survey shall be carried out at least once in three years for monitoring land use pattern and report in 1:50,000 scale or as notified by Ministry of

Environment, Forest and Climate Change(MOEFCC) from time to time shallbe submitted to MOEFCC/Regional Office (RO).

(ii) The final mine void depth should preferably be as per the approved Mine Closure Plan, and in case it exceeds 40 m, adequate engineering interventions shall be provided for sustenance of aquatic life therein. The remaining area shall be backfilled and covered with thick and alive top soil. Post-mining land be rendered usable for agricultural/forestry purposes and shall be diverted. Further action will be treated as specified in the guidelines for Preparation of Mine Closure Plan issued by the Ministry of Coal dated 27th August, 2009 and subsequent amendments.

(iii) The entire excavated area, backfilling, external OB dumping (including top soil) and afforestation plan shall be in conformity with the "during mining"/"post mining" land-use pattern, which is an integral part of the approved Mining Plan and the EIA/EMP submitted to this Ministry. Progressive compliance status vis-a-vis the post mining land use pattern shall be submitted to the MOEFCC/RO.

(iv) Fly ash shall be used for external dump of overburden, backfilling or stowing of mine as per provisions contained in clause (i) and (ii) of subparagraph (8) of fly ash notification issued vide SO 2804 (E) dated 3rd November, 2009 as amended from time to time. Efforts shall be made to utilize gypsum generated from Flue Gas Desulfurization (FGD), if any, along with fly ash for external dump of overburden, backfilling of mines. Compliance report shall be submitted to Regional Office of MoEF&CC, CPCB and SPCB.

(v) Further, it may be ensured that as per the time schedule specified in mine closure plan it should remain live till the point of utilization. The topsoil shall temporarily be stored at earmarked site(s) only and shall not be kept unutilized. The top soil shall be used for land reclamation and plantation purposes. Active OB dumps shall be stabilized with native grass species to prevent erosion and surface run off. The other overburden dumps shall be vegetated with native flora species. The excavated area shall be backfilled and afforested in line with the approved Mine Closure Plan. Monitoring and management of rehabilitated areas shall continue until the vegetation becomes self-sustaining. Compliance status shall be submitted to the Ministry of Environment, Forest and Climate Change/ Regional Office.

(vi) The project proponent shall make necessary alternative arrangements, if grazing land is involved in core zone, in consultation with the State government to provide alternate areas for livestock grazing, if any. In this context, the project

proponent shall implement the directions of Hon'ble Supreme Court with regard to acquiring grazing land.

(g) Green Belt

(i) The project proponent shall take all precautionary measures during mining operation for conservation and protection of endangered/endemic flora/fauna,if any, spotted/reported in the study area. The Action plan in this regard, if any,shall be prepared and implemented in consultation with the State Forest and Wildlife Department.

(ii) Greenbelt consisting of 3-tier plantation of width not less than 7.5 m shall be developed allalong the mine lease area as soon as possible. The green belt comprising a mix of native species (endemic species should be given priority) shall be developed all along the major approach/ coal transportation roads.

(h) Public hearing and Human health issues

(i) Adequate illumination shall be ensured in all mine locations (as per DGMS standards) and monitored weekly. The report on the same shall be submitted to this ministry & it's RO on six-monthly basis.

(ii) The project proponent shall undertake occupational health survey for initial and periodical medical examination of the personnel engaged in the project and maintain records accordingly as per the provisions of the Mines Rules, 1955 and DGMS circulars. Besides regular periodic health check-up, 20% of the personnel identified from workforce engaged in active mining operations shall be subjected to health check-up for occupational diseases and hearing impairment, if any, as amended time to time.

(iii) Personnel (including outsourced employees) working in core zone shall wear protective respiratory devices and shall also be provided with adequate training and information on safety and health aspects.

(iv) Implementation of the action plan on the issues raised during the public hearing shall be ensured. The project proponent shall undertake all the tasks/measures as per the action plan submitted with budgetary provisions during the public hearing. Land oustees shall be compensated as per the norms laid down in the R&R policy of the company/State Government/Central

Government, as applicable.

(v) The project proponent shall follow the mitigation measures provided in this Ministry's OMNo.Z-11013/5712014-IA.I1 (M) dated 29th October, 2014, titled 'Impact of mining activities on habitations-issues related to the mining projects wherein habitations and villages are the part of mine lease areas or habitations and villages are surrounded by the mine lease area'.

(i) Corporate Environment Responsibility

(i) The project proponent shall comply with the provisions contained in this Ministry's OM vide F.No.22-65/2017-IA.III dated 1st May 2018, as applicable, regarding Corporate Environment Responsibility.

(ii) The company shall have a well laid down environmental policy duly approve by the Board of Directors. The environmental policy should prescribe for standard operating procedures to have proper checks and balances and to bring into focus any infringements/deviation/violation of the environmental/forest/wildlife norms/conditions. The company shall have defined system of reporting infringements/deviation/violation of the environmental/forest/wildlife norms/conditions and/or shareholder's/stake holders.

(iii) A separate Environmental Cell both at the project and company head quarter level, with qualified personnel shall be set up under the control of senior Executive, who will directly to the head of the organization.

(iv) Action plan for implementing EMP and environmental conditions along with responsibility matrix of the company shall be prepared and shall be duly approved by competent authority. The year wise funds earmarked for environmental protection measures shall be kept in separate account and not to be diverted for any other purpose. Year wise progress of implementation of action plan shall be reported to the Ministry/Regional Office along with the Six Monthly Compliance Report.

(v) Self-environmental audit shall be conducted annually. Every three years third party environmental audit shall be carried out.

(j) Miscellaneous

(i) The project proponent shall make public the environmental clearance grantedfor their project along with the environmental conditions and safeguards at their cost by prominently advertising it at least in two local newspapers of theDistrict or State, of which one shall be in the vernacular language within sevendays and in addition this shall also be displayed in the project proponent's website permanently.

(ii) The copies of the environmental clearance shall be submitted by the project proponents to the Heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt.

(iii) The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and update the same on half-yearly basis.

(iv) The project proponent shall monitor the criteria pollutants level namely; PM10, SO2, NOx (ambient levels) or critical sectoral parameters, indicated for the projects and display the same at a convenient location for disclosure to the public and put on the website of the company.

(v) The project proponent shall submit six-monthly reports on the status of the compliance of the stipulated environmental conditions on the website of the ministry of Environment, Forest and Climate Change at environment clearance portal.

(vi) The project proponent shall follow the mitigation measures provided in this Ministry's OM No. Z-11013/5712014-IA. II (M) dated 29th October, 2014, titled 'Impact of mining activities on habitations-issues related to the mining projects wherein habitations and villages are the part of mine lease areas or habitations and villages are surrounded by the mine lease area'.

(vii) The project proponent shall submit the environmental statement for each financial year in Form-V to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently and put on the website of the company.

(viii) The project authorities shall inform to the Regional Office of the MOEFCC regarding commencement of mining operations.

(ix) The project authorities must strictly adhere to the stipulations made by the State Pollution Control Board and the State Government.

(x) The project proponent shall abide by all the commitments and recommendations made in the EIA/EMP report, commitment made during Public Hearing and also that during their presentation to the Expert Appraisal Committee.

(xi) No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment, Forests and Climate Change.

(xii) Concealing factual data or submission of false/fabricated data may result in revocation of this environmental clearance and attract action under the provisions of Environment (Protection) Act, 1986.

(xiii) The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.

(xiv) The Ministry reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner shall implement these conditions.

(xv) The Regional Office of this Ministry shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data / information/monitoring reports.

(xvi) The above conditions shall be enforced, inter-alia under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, Hazardous and Other Wastes (Management and Trans-boundary Movement) Rules, 2016 and the Public Liability Insurance Act, 1991 along with their amendments and Rules and any other orders passed by the Hon'ble Supreme Court of India / High Courts and any other Court of Law relating to the subject matter.

Annexure-II

Standard EC Conditions for Coal Mining Project (Underground mining):

All the projects recommended for grant of environmental clearance by the EAC shall also comply with the following Standard EC conditions as per Ministry's circular issued from time to time:

I. Statutory compliance:

(i) The Environmental clearance shall be subject to orders of Hon'ble Supreme Court of India, Hon'ble High Courts, NGT and any other Court of Law, fromtime to time, and as applicable to the project.

(ii) The project proponent shall obtain forest clearance under the provisions of Forest (Conservation) Act, 1986, in case of the diversion of forest land for non-forest purpose involved in the project.

(iii) The project proponent shall obtain clearance from the National Board for Wildlife, if applicable.

(iv) The project proponent shall prepare a Site-Specific Conservation Plan / Wildlife Management Plan and approved by the Chief Wildlife Warden. The recommendations of the approved Site-Specific Conservation Plan / Wildlife Management Plan shall be implemented in consultation with the State Forest Department. The implementation report shall be furnished along with the six-monthly compliance report. (in case of the presence of Schedule-I species in the study area).

(v) The project proponent shall obtain Consent to Establish / Operate under the provisions of Air (Prevention & Control of Pollution) Act, 1981 and the Water (Prevention & Control of Pollution) Act, 1974 from the concerned State Pollution Control Board/ Committee.

(vi) The project proponent shall obtain the necessary permission from the Central Ground Water Authority.

(vii) Solid waste/hazardous waste generated in the mines needs to addressed in

accordance to the Solid Waste Management Rules, 2016 / Hazardous & Other Waste Management Rules,2016

II. Air quality monitoring and preservation

i. Adequate ambient air quality monitoring stations shall be established in the core zone as well as in the buffer zone for monitoring of pollutants, namely particulates, SO2 and NOx.Location of the stations shall be decided based on the meteorological data, topographical features and environmentally and ecologically sensitive receptors in consultation with the State Pollution Control Board. Monitoring of heavy metals such as Hg, As, Ni, Cd, Cr, etc.tobe carried out at least once in six months. Online ambient air quality monitoring station/stations may also be installed in addition to the regular airmonitoring stations as per the requirement and/or in consultation with the SPCB.

ii. The Ambient Air Quality monitoring in the core zone shall be carried out to ensure the Coal Industry Standards notified vide GSR 742 (E) dated 25.9.2000 and as amended from time to time by the Central Pollution Control Board. Data on ambient air quality and heavy metals such as Hg, As, Ni, Cd, Cr and other monitoring data shall be regularly reported to the Ministry/Regional Office and to the CPCB/SPCB.

iii. Transportation of coal, to the extent permitted by road, shall be carried out by covered trucks/conveyors. Effective control measures such as regular water sprinkling/rain gun/ mist sprinkling etc., shall be carried out in critical areas prone to air pollution with higher level of particulate matter all through the coal transport roads, loading/unloading and transfer points. Fugitive dust emissions from all sources shall be controlled regularly. It shall be ensured that the ambient air quality parameters conform to the norms prescribed bythe Central/State Pollution Control Board.

iv. Major approach roads shall be black topped and properly maintained.

v. The transportation of coal shall be carried out as per the provisions and route proposed in the approved mining plan. Transportation of the coal through the existing road passing through any village shall be avoided. In case, it is proposed to construct a 'bypass' road, it should be so constructed that the impact of sound, dust and accidents could be appropriately mitigated.

vi. Vehicular emissions shall be kept under control and regularly monitored. All the vehicles engaged in mining and allied activities shall operate only after obtaining 'PUC' certificate from the authorized pollution testing centres.

vii. Coal stock pile/crusher/feeder and breaker material transfer points shall invariably be provided with dust suppression system. Belt-conveyors shall be fully covered to avoid airborne dust. Side cladding all along the conveyor gantry should be made to avoid air borne dust. Drills shall be wet operated or fitted with dust extractors.

viii. Coal handling plant shall be operated with effective control measures w.r.t. various environmental parameters. Environmental friendly sustainable technology should be implemented for mitigating such parameters.

III. Water quality monitoring and preservation

i. The effluent discharge (mine waste water, workshop effluent) shall be monitored in terms of the parameters notified under the Water Act, 1974 Coal Industry Standards vide GSR 742 (E) dated 25.9.2000 and as amended from time to time by the Central Pollution Control Board.

ii. The monitoring data shall be uploaded on the company's website and displayed at the project site at a suitable location. The circular No. J-20012/1/2006-IA.11 (M) dated 27.05.2009 issued by Ministry of Environment, Forest and Climate Change shall also be referred in this regard for its compliance.

iii. Regular monitoring of ground water level and quality shall be carried out in and around the mine lease area by establishing a network of existing wells and constructing new piezometers during the mining operations. The monitoring of ground water levels shall be carried out four times a year i.e. pre-monsoon, monsoon, post-monsoon and winter. The ground water quality shall be monitored once a year, and the data thus collected shall be sent regularly to MOEFCC/RO.

iv. Monitoring of water quality upstream and downstream of water bodies shall be carried out once in six months and record of monitoring data shall be maintained and submitted to the Ministry of Environment, Forest and Climate Change/Regional Office.

v. Ground water, excluding mine water, shall not be used for mining operations.

Rainwater harvesting shall be implemented for conservation and augmentation of ground water resources.

vi. The project proponent shall not alter major water channels around the site. Appropriate embankment shall be provided along the side of the river/Nallah flowing near or adjacent to the mine. The embankment constructed along the river/nallah boundary shall be of suitable dimensions and critical patches shall be strengthened by stone pitching on the river front side, stabilized with plantation so as to withstand the peak water pressure preventing any chance of mine inundation.

vii. Garland drains (of suitable size, gradient and length) around the critical areas i.e. mine shaft and low lying areas, shall be designed keeping at least 50% safety margin over and above the peak sudden rainfall and maximum discharge in the area adjoining the mine sites. The sump capacity shall also provide adequate retention period to allow proper settling of silt material of the surface run off.

viii. The water pumped out from the mine, after siltation, shall be utilized for industrial purposive. watering the mine area, roads, green belt development etc. The drains shall be regularly desilted particularly after monsoon and maintained properly.

ix. Industrial waste water from coal handling plant and mine water shall be properly collected and treated so as to conform to the standards prescribed under the Environment (Protection) Act, 1986 and the Rules made thereunder, and as amended from time to time. Oil and grease trap shall be installed before discharge of workshop effluent. Sewage treatment plant of adequate capacity shall be installed for treatment of domestic waste water.

x. Adequate groundwater recharge measures shall be taken up for augmentation of ground water. The project authorities shall meet water requirement of nearby village(s) in case the village wells go dry due to dewatering of mine.

xi. The surface drainage plan including surface water conservation plan for the area of influence affected by the said mining operations shall be prepared, considering the presence of any river/rivulet/pond/lake etc., with impact of mining activities on it, and implemented by the project proponent. The surface drainage plan and/or any diversion of natural water courses shall be as per the provisions of the approved Mining Plan/ EIA-EMP submitted to this Ministry and the same should be done with due approval of the concerned State/GoI

Authority. The construction of embankment to prevent any danger against inrush of surface water into the mine should be as per the approved mining plan and as per the permission of DGMS.

xii. The project proponent shall take all precautionary measures to ensure reverian/ riparian ecosystem in and around the coal mine upto a distance of 5 km. A revarian /riparian ecosystem conservation and management plan should be prepared and implemented in consultation with the irrigation / water resource department in the state government.

IV. Noise and Vibration monitoring and prevention

i. Adequate measures shall be taken for control of noise levels below 85 dB(A)in the work environment. Workers engaged in underground mining operations, operation of HEMM, etc. shall be provided with personal protective equipment (PPE) like ear plugs/muffs in conformity with the prescribed norms/guidelines in this regard. Progress in usage of such accessories to be monitored. Adequate awareness programme for users to beconducted.

ii. The noise level survey shall be carried out as per the prescribed guidelines to assess noise exposure of the workmen at vulnerable points in the mine premises, and report in this regard shall be submitted to the Ministry/RO on six-monthly basis.

V. Mining Plan

i. Mining shall be carried out under strict adherence to provisions of the MinesAct 1952 and subordinate legislations made there-under as applicable.

ii. No change in mining method i.e. UG to OC, calendar programme and scope of work shall be made without obtaining prior approval of the Ministry of Environment, Forests and Climate Change (MoEF&CC).

iii. Mining shall be carried out as per the approved mining plan (including mine closure plan) abiding by mining laws related to coal mining and the relevant circulars issued by Directorate General Mines Safety (DGMS).

iv. Underground work place environmental conditions shall be rendered ergonomic and air breathable with adequate illumination in conformance with

DGMS standards.

v. No mining activity shall be carried out in forest land without obtaining Forestry Clearance as per Forest (Conservation) Act, 1980 and also adhering to The Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 read with provisions of Indian Forest Act, 1927.

vi. Efforts should be made to reduce energy and fuel consumption by conservation, efficiency improvements and use of renewable energy.

VI. Land reclamation

i. Digital Survey of entire lease hold area/core zone using Satellite Remote Sensing survey shall be carried out at least once in three years for monitoring land use pattern and report in1:50,000 scale or as notified by Ministry of Environment, Forest and Climate Change(MOEFCC) from time to time shallbe submitted to MOEFCC/Regional Office (RO).

ii. Post-mining land be rendered usable for agricultural/forestry purposes and shall be handed over to the respective State Government, as specified in the Guidelines for Preparation of Mine Closure Plan, issued by the Ministry of Coal dated 27th August, 2009 and subsequent amendments.

iii. Regular monitoring of subsidence movement on the surface over and around the working areas and its impact on natural drainage pattern, water bodies, vegetation, structure, roads and surroundings shall be continued till movement ceases completely. In case of observation of any high rate of subsidence beyond the limit prescribed, appropriate effective mitigation measures shall be taken to avoid loss of life and materials. Cracks should be effectively plugged in with ballast and clay soil/suitable material.

iv. Fly ash shall be used for external dump of overburden, backfilling or stowing of mine as per provisions contained in clause (i) and (ii) of subparagraph (8) of fly ash notification issued vide SO 2804 (E) dated 3rd November, 2009 as amended from time to time. Efforts shall be made to utilize gypsum generated from Flue Gas Desulfurization (FGD), if any, along with fly ash for external dump of overburden, backfilling or stowing of mines. Compliance report shall be submitted to Regional Office of MoEF&CC, CPCB and SPCB.

v. A separate team for subsidence monitoring and surface mitigation measures

shall be constituted and continuous monitoring & implementation of mitigation measures be carried out.

vi. Thorough inspection of the mine lease area for any cracks developed at the surface due to mining activities below ground shall be carried out to prevent inrush of water in the mine.

vii. Native tree species shall be selected and planted over areas affected by subsidence.

viii. The project proponent shall make necessary alternative arrangements, if grazing land is involved in core zone, in consultation with the State government to provide alternate areas for livestock grazing, if any. In this context, the project proponent shall implement the directions of Hon'ble Supreme Court with regard to acquiring grazing land.

VII. Green Belt

i. The project proponent shall take all precautionary measures during mining operation for conservation and protection of endangered flora/fauna, if any, spotted/reported in the study area. Action plan, in this regard, if any, shall be prepared and implemented in consultation with the State Forest and Wildlife Department.

ii. Greenbelt, consisting of three-tier plantation, of width not less than 7.5 m, shall be developed all along the mine lease area in a phased manner. The green belt comprising of a mix of native species shall be developed all along the major approach roads/ coal transportation roads.

VIII. Public hearing and Human health issues

i. Adequate illumination shall be ensured in all mine locations (as per DGMS standards) and monitored.

ii. The Project Proponent shall undertake Occupational Health survey for initial and Periodical medical examination of the workers engaged in the Project and maintain records accordingly as per the provisions of the Mines Rules, 1955 and DGMS Circulars. Besides carrying out regular periodic health check-up of their workers, 20% of the workers engaged in active mining operations shall be

subjected to health check-up for occupational diseases and hearing impairment, if any.

iii. Personnel (including outsourcing employees) working in dusty areas shall wear protective respiratory devices and shall also be provided with adequate training and information on safety and health aspects.

iv. Skill training as per safety norms specified by DGMS shall be provided to all workmen including the outsourcing employees to ensure high safety standards in mines.

v. Effective arrangement shall be made to provide and maintain at suitable points conveniently situated, a sufficient supply of drinking water for all the persons employed.

vi. Implementation of Action Plan on the issues raised during the Public Hearing shall be ensured. The Project Proponent shall undertake all the tasks as per the Action Plan submitted with budgetary provisions during the Public Hearing. Land oustees shall be compensated as per the norms laid out R&R Policy of the Company/ or the National R&RPolicy/ R&R Policy of the State Government, as applicable.

vii. The project proponent shall follow the mitigation measures provided in this Ministry's OMNo.Z-11013/5712014-IA. II (M) dated 29th October, 2014, titled 'Impact of mining activities on habitations-issues related to the mining projects wherein habitations and villages are the part of mine lease areas or habitations and villages are surrounded by the mine lease area'.

IX. Corporate Environment Responsibility

i. The project proponent shall comply with the provisions contained in this Ministry's OM vide F.No. 22-65/2017-IA.III dated 1st May 2018, as applicable, regarding Corporate Environment Responsibility.

ii. The company shall have a well laid down environmental policy duly approve by the Board of Directors. The environmental policy should prescribe for standard operating procedures to have proper checks and balances and to bring into focus any infringements/deviation/violation of the environmental / forest / wildlife norms / conditions. The company shall have defined system of reporting infringements / deviation/ violation of the environmental / forest / wildlife norms

/ conditions and / or shareholder's / stake holders. The copy of the board resolution in this regard shall be submitted to the MoEF&CC as a part of six-monthly report.

iii. A separate Environmental Cell both at the project and company head quarter level, with qualified personnel shall be set up under the control of senior Executive, who will directly to the head of the organization.

iv. Action plan for implementing EMP and environmental conditions along with responsibility matrix of the company shall be prepared and shall be duly approved by competent authority. The year wise funds earmarked for environmental protection measures shall be kept in separate account and not to be diverted for any other purpose. Year wise progress of implementation of action plan shall be reported to the Ministry/Regional Office along with the Six Monthly Compliance Report.

v. Self-environmental audit shall be conducted annually. Every three years third party environmental audit shall be carried out.

x. Miscellaneous

i. The project proponent shall make public the environmental clearance granted for their project along with the environmental conditions and safeguards at their cost by prominently advertising it at least in two local newspapers of the District or State, of which one shall be in the vernacular language within sevendays and in addition this shall also be displayed in the project proponent's website permanently.

ii. The copies of the environmental clearance shall be submitted by the project proponents to the Heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt.

iii. The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and update the same on half-yearly basis.

iv. The project proponent shall submit six-monthly reports on the status of the compliance of the stipulated environmental conditions on the website of the ministry of Environment, Forest and Climate Change at environment clearance

portal.

v. The project proponent shall submit the environmental statement for each financial year in Form-V to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently and put on the website of the company.

vi. The project authorities shall inform to the Regional Office of the MOEFCC regarding commencement of mining operations.

vii. The project authorities must strictly adhere to the stipulations made by the State Pollution Control Board and the State Government.

viii. The project proponent shall abide by all the commitments and recommendations made in the EIA/EMP report, commitment made during Public Hearing and also that during their presentation to the Expert Appraisal Committee.

ix. No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment, Forests and Climate Change (MoEF&CC).

x. Concealing factual data or submission of false/fabricated data may result in revocation of this environmental clearance and attract action under the provisions of Environment (Protection)Act, 1986.

xi. The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.

xii. The Ministry reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner shall implement these conditions.

xiii. The Regional Office of this Ministry shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data / information/monitoring reports.

xiv. The above conditions shall be enforced, inter-alia under the provisions of the Water(Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 and the Public Liability Insurance Act, 1991 along with their

amendments and Rules and any other orders passed by the Hon'ble Supreme Court of India / High Courts and any other Court of Law relating to the subject matter.

xv. Any appeal against this EC shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.

***

Annexure-III

Standard EC Conditions for Coal Washery Project

I. Statutory compliance:

(i) The project proponent shall obtain forest clearance under the provisions of Forest (Conservation) Act, 1986, in case of the diversion of forest land for non-forest purpose involved in the project.

(ii) The project proponent shall obtain clearance from the National Board for Wildlife, if applicable.

(iii) The project proponent shall prepare a Site-Specific Conservation Plan / Wildlife Management Plan and approved by the Chief Wildlife Warden. The recommendations of the approved Site-Specific Conservation Plan / Wildlife Management Plan shall be implemented in consultation with the State Forest Department. The implementation report shall be furnished along with the six-monthly compliance report. (in case of the presence of Schedule-I species in the study area)

(iv) The project proponent shall obtain Consent to Establish / Operate under the provisions of Air (Prevention & Control of Pollution) Act, 1981 and the Water (Prevention & Control of Pollution) Act, 1974 from the concerned State Pollution Control Board/ Committee.

(v) The project proponent shall obtain the necessary permission from the Central Ground Water Authority.

(vi) Solid waste/hazardous waste generated in the washery needs to addressed in accordance to the Solid Waste Management Rules, 2016 / Hazardous & Other Waste Management Rules,2016.

(vii) Coal beneficiation practices shall be carried out under strict adherence to provisions of the Factories Act, 1957 and subordinate legislations made there under.

II. Air quality monitoring and preservation:

i. Adequate ambient air quality monitoring stations shall be established in the core zone as well as in the buffer zone for monitoring of pollutants, namely particulates, SO2 and NOx. Location of the stations shall be decided based on the meteorological data, topographical features and environmentally and ecologically sensitive receptors in consultation with the State Pollution Control Board. Monitoring of heavy metals such as Hg, As, Ni, Cd, Cr, etc. carried out at least once in six months.

ii. Continuous ambient air quality monitoring stations as prescribed in the statue be established in the core zone as well as in the buffer zone for monitoring of pollutants, namely PM10, PM2.5, SO2 and NOx. Location of the stations shall be decided based on themeteorological data, topographical features and environmentally and ecologically sensitive targets in consultation with the State Pollution Control Board. Online ambient air quality monitoring stations may also be installed in addition to the regular monitoring stations as per the requirement and/or in consultation with the SPCB. Monitoring of heavy metals such as Hg, As, Ni, Cd, Cr, etc to be carried out at least once in six months.

iii. Transportation of coal by road shall be carried out by covered trucks/conveyors. The transportation of clean coal and rejects shall be by rail with wagon loading through silo. Effective measures such as regular water sprinkling shall be carried out in critical areas prone to air pollution and having high levels of particulates such as roads, belt conveyors, loading/unloading and transfer points. Fugitive dust emissions from all sources shall be controlled at source. It shall be ensured that the ambient air quality parameters conform to the norms prescribed by the Central/State Pollution Control Board

iv. All approach roads shall be black topped and internal roads shall be concreted. The roads shall be regularly cleaned. Coal transportation shall be carried out by covered trucks.

v. Covered trucks shall be engaged for mineral transportation outside the washery up to the railway siding, shall be optimally loaded to avoid spillage en-route. Trucks shall be adequately maintained and emissions shall be below notified limits.

vi. Facilities for parking of trucks carrying raw material from linked mine shall be created within the unit.

vii. Vehicular emissions shall be kept under control and regularly monitored. The vehicles having 'PUC' certificate from authorized pollution testing centres shall be deployed for washery operations.

viii. Hoppers of the coal crushing unit and other washery units shall be fitted with high efficiency bag filters/mist spray water sprinkling system shall be installed and operated effectively at all times of operation to check fugitive emissions from crushing operations, transfer points of closed belt conveyor systems and from transportation roads.

ix. The raw coal, washed coal and coal wastes (rejects) shall be stacked properly

at earmarked site (s) within stockyards fitted with wind breakers/shields. Adequate measures shall be taken to ensure that the stored mineral does not catch fire.

x. The temporary reject sites should appropriate planned and designed to avoid air and water pollution from such sites.

III. Water quality monitoring and preservation:

i. The effluent discharge (mine waste water, workshop effluent) shall be monitored in terms of the parameters notified under the Water Act, 1974 Coal Industry Standards vide GSR 742 (E) dated 25.9.2000 and as amended from time to time by the Central Pollution Control Board.

ii. The monitoring data shall be uploaded on the company's website and displayed at the project site at a suitable location. The circular No. J-20012/1/2006-IA.11 (M) dated 27.05.2009 issued by Ministry of Environment, Forest and Climate Change shall also be referred in this regard for compliance.

iii. Industrial waste water shall be properly collected and treated so as to conform to the standards prescribed under the Environment (Protection) Act, 1986 and the Rules made there under, and as amended from time to time.

iv. The project proponent shall not alter major water channels around the site. Appropriate embankment shall be provided along the side of the river/nallah flowing near or adjacent to the washery. The embankment constructed along the river/nallah boundary shall be of suitable dimensions and critical patches shall be strengthened by stone pitching on the riverfront side stabilized with plantation so as to withstand the peak water pressure preventing any chance of inundation.

v. Heavy metal content in raw coal and washed coal shall be analysed once in a year and records maintained thereof.

vi. The rejects should preferably be utilized in FBC power plant or disposed off through sale for its gainful utilization. If the coal washery rejects are to be disposed off, it should be done in a safe and sustainable manner with adequate compaction and post closure arrangement to avoid water pollution due to leachate from rejects and surface run of from reject dumping sites.

vii. An Integrated Surface Water Management Plan for the washery area up to its buffer zone considering the presence of any river/rivulet/pond/lake etc. with impact of coal washing activities on it, shall be prepared, submitted to MoEF&CC and implemented.

viii. Waste Water shall be effectively treated and recycled completely either for washery operations or maintenance of green belt around the plant.

ix. Rainwater harvesting in the washery premises shall be implemented for conservation and augmentation of ground water resources in consultation with Central Ground Water Board.

x. No ground water shall be used for coal washing unless otherwise permitted in writing by competent authority (CGWA) or MoEFCC. The make-up water requirement of washery should not exceed 1.5 m3/tonne of raw coal.

xi. Regular monitoring of ground water level and quality shall be carried out in and around the mine lease area by establishing a network of existing wells and constructing new piezometers during the mining operations. The monitoring of ground water levels shall be carried out four times a year i.e. pre-monsoon, monsoon, post-monsoon and winter. The ground water quality shall be monitored once a year, and the data thus collected shall be sent regularly to MOEFCC/RO. Monitoring of water quality upstream and downstream of water bodies shall be carried out once in six months and record of monitoring data shall be maintained and submitted to the Ministry of Environment, Forest and Climate Change/Regional Office.

xii. The project proponent shall take all precautionary measures to ensure riverine/ riparian ecosystem in and around the coal mine up to a distance of 5 km. A riverine/riparian ecosystem conservation and management plan should be prepared and implemented in consultation with the irrigation / water resource department in the state government.

IV. Noise and Vibration monitoring and prevention

i. The noise level survey shall be carried out as per the prescribed guidelines to assess noise exposure of the workmen at vulnerable points in the mine premises, and report in this regard shall be submitted to the Ministry/RO onsix-

monthly basis.

ii. Adequate measures shall be taken for control of noise levels as per noise pollution Rules,2016 in the work environment. Workers engaged in blasting and drilling operations, operation of HEMM, etc shall be provided with personal protective equipments (PPE) like ear plugs/muffs in conformity with the prescribed norms and guidelines in this regard. Adequate awareness programme for users to be conducted. Progress in usage of such accessories to be monitored.

V. Coal beneficiation

i. Coal stacking plan shall be prepared separately for raw coal, clean coal, middling and rejects.

ii. Efforts should be made to reduce energy consumption by conservation, efficiency improvements and use of renewable energy.

VI. Green Belt

i. Three tier greenbelt comprising of a mix of native species, of minimum 30 m width shall be developed all along the washery area to check fugitive dust emissions and to render aesthetic to neighboring stakeholders. A 3-tier green belt comprising of a mix of native species or tree species with thick leaves shall be developed along vacant areas, storage yards, loading/transfer points and also along internal roads/main approach roads.

ii. The project proponent shall make necessary alternative arrangements, if grazing land is involved in core zone, in consultation with the State government to provide alternate areas for livestock grazing, if any. In this context, the project proponent shall implement the directions of Hon'ble Supreme Court with regard to acquiring grazing land.

VII. Public hearing and Human health issues

i. Adequate illumination shall be ensured in all mine locations (as per DGMS standards) and monitored weekly. The report on the same shall be submitted to this ministry & its RO on six-monthly basis. The project proponent shall undertake occupational health survey for initial and periodical medical

examination of the personnel engaged in the project and maintain records accordingly as per the provisions of the Mines Rules, 1955 and DGMS circulars. Besides regular periodic health check-up, 20% of the personnel identified from workforce engaged in active mining operations shall be subjected to health check-up for occupational diseases and hearing impairment, if any. as amended time to time.

ii. Personnel (including outsourced employees) working in core zone shall wear protective respiratory devices and shall also be provided with adequate training and information on safety and health aspects.

iii. Implementation of the action plan on the issues raised during the public hearing shall be ensured. The project proponent shall undertake all the tasks/measures as per the action plan submitted with budgetary provisions during the public hearing. Land oustees shall be compensated as per the norms laid down in the R&R policy of the company/State Government/Central Government, as applicable.

iv. The project proponent shall follow the mitigation measures provided in this Ministry's OM No. Z-11013/5712014-IA.I1 (M) dated 29th October, 2014, titled 'Impact of mining activities on habitations-issues related to the mining projects wherein habitations and villages are the part of mine lease areas or habitations and villages are surrounded by the mine lease area'.

VIII. Miscellaneous

i. The project proponent shall make public the environmental clearance granted for their project along with the environmental conditions and safeguards at their cost by prominently advertising it at least in two local newspapers of the District or State, of which one shall be in the vernacular language within seven days and in addition this shall also be displayed in theproject proponent's website permanently.

ii. The copies of the environmental clearance shall be submitted by the project proponents tithe Heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt.

iii. The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their

website and update the same on half-yearly basis.

iv. The project proponent shall monitor the criteria pollutants level namely; PM10, SO2, NOx (ambient levels) or critical sectoral parameters, indicated for the projects and display the same at a convenient location for disclosure to the public and put on the website of the company.

v. The project proponent shall submit six-monthly reports on the status of the compliance of the stipulated environmental conditions on the website of the ministry of Environment, Forest and Climate Change at environment clearance portal.

vi. The project proponent shall submit the environmental statement for each financial year in Form-V to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently and put on the website of the company.

vii. The project authorities shall inform to the Regional Office of the MOEFCC regarding commencement of mining operations.

viii. The project authorities must strictly adhere to the stipulations made by the State Pollution Control Board and the State Government.

ix. The project proponent shall abide by all the commitments and recommendations made in the EIA/EMP report, commitment made during Public Hearing and also that during their presentation to the Expert Appraisal Committee.

x. No change in coal beneficiation process and scope of work shall be made without obtaining prior approval of the Ministry of Environment, Forests and Climate Change (MoEF&CC) with such conditions mentioned therein. No change in the maximum quantum of raw material feed per annum against the approved washery capacity shall be made.

xi. Concealing factual data or submission of false/fabricated data may result in revocation of this environmental clearance and attract action under the provisions of Environment (Protection) Act, 1986.

xii. The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.

xiii. The Ministry reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner shall implement these conditions.

xiv. The Regional Office of this Ministry shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data / information/monitoring reports.

xv. The above conditions shall be enforced, inter-alia under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 and the Public Liability Insurance Act, 1991 along with their amendments and Rules and any other orders passed by the Hon'ble Supreme Court of India / High Courts and any other Court of Law relating to the subject matter.

xvi. Any appeal against this EC shall lie with the National Green Tribunal, if preferred, within period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.

***

ANNEXURE-IV

Generic ToR for coal washery

i. Siting of washery is critical considering to its environmental impacts. Preferenceshould be given to the site located at pit head; in case such a site is not available, the site should be as close to the pit head as possible and coal shouldbe transported from mine to the washer preferably through closed conveyerbelt to avoid air pollution.

ii. The washery shall not be located in eco-sensitive zones areas.

iii. The washery should have a closed system and zero discharge. The storm drainage should be treated in settling ponds before discharging into rivers/streams/water bodies.

iv. A thick Green belt of about 50 m width should be developed surrounding the washery.

v. A brief description of the plant along with a layout, the specific technology used and the source of coal should be provided.

vi. The EIA-EMP Repot should cover the impacts and management plan for the project of the capacity for which EC is sought and the impacts of specific activities, including the technology used and coal used, on the environment of the area (within 10km radius), and the environmental quality of air, water, land, biotic community, etc. through collection of data and information, generation of data on impacts for the rated capacity. Cumulative impacts for air and water should be a part of EIA in case coal mine, TPP and other washeries are located within 10km radius. The EIA should also include mitigative measures needed to minimize adverse environmental impacts.

vii. A Study Area Map of the core zone as well as the 10km area of buffer zone showing major industries/mines and other polluting sources should be submitted. These maps shall also indicate the migratory corridors of fauna, if any and areas of endangered fauna; plants of medicinal and economic importance; any ecologically sensitive areas within the 10 km buffer zone; the shortest distance from the National Park/WL Sanctuary Tiger Reserve, etc. along with the comments of the Chief Wildlife Warden of the State Govt.

viii. Data of one-season (non-monsoon) primary- base-line data on environmental quality of air (PM10, PM2.5, SOx and NOx, noise, water (surface and groundwater), soil be submitted.

ix. The wet washery should generally utilize mine water only. In case mine water is not

available, the option of storage of rain water and its use should be examined. Use of surface water and ground water should be avoided.

x. Detailed water balance should be provided. The break-up of water requirement as per different activities in the mining operations vis-a-vis washery should be given. If the source of water is from surface water and/or ground water, the same may be justified besides obtaining approval of the Competent Authority for its drawl.

xi. The entire sequence of mineral production, transportation, handling, transfer and storage of mineral and waste, if any, and their impacts on air quality should be shown in a flow chart with specific points where fugitive emissions can arise and specific pollution control/mitigative measures proposed to be put in place. The washed coal and rejects should be transport by train as far as possible. Road transport of washed coal and rejects should generally be avoided. In case, the TPP is within 10km radius, it should be through conveyer belt. If transport by rail is not feasible because of the topography of the area, the option for transport by road be examined in detail and its impacts along with the mitigation measures should be clearly brought out in ElA/EMP report.

xii. Details of various facilities proposed to be provided in terms of parking, rest areas, canteen etc. to the personnel involved in mineral transportation, workshop and effluents/pollution load from these activities should be provided.

xiii. Impacts of CHP, if any, on air and water quality should also be spelt out along with Action Plan.

xiv. O.M. No. J-ll0I3/25/2014-IA.I dated 11th August, 2014 to be followed with regard to CSR activities.

xv. Details of Public Hearing, Notice(s) issued in newspapers, proceedings/minutes of Public Hearing, points raised by the general public and response/commitments made by the proponent along with the Action Plan and budgetary provisions be submitted in tabular form. If the Public Hearing is in the regional language, an authenticated English translation of the same should be provided. Status of any litigations/ court cases filed/pending, if any, against the project should be mentioned in EIA.

xvi. Analysis of samples indicating the following be submitted: Characteristics of coal prior to washing (this includes grade of coal, other characteristics of ash, S and heavy levels of metals such as Hg, As, Pb, Cr etc). Characteristics and quantum of coal after washing. Characteristics and quantum of coal rejects.

xvii. Details of management/disposal/use of coal rejects should be provided. The rejects should be used in TPP located close to the washery as far as possible. If TPP is within a reasonable distance (10 km), transportation should be by conveyor belt. If it is far away,

the transportation should be by rail as far as possible.

xviii. Copies of MOU/Agreement with linkages (for stand-alone washery) for the capacity for which EC is being sought should be submitted.

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.

e) A detailed action Plan for Corporate Social Responsibility for the project affected people and people living in and around the project area should be provided.

f) Permission of drawl of water shall be pre-requisite for consideration of EC.

g) Wastewater /effluent should confirm to the effluent standards as prescribed under Environment (Protection) Act, 1986

h) Details of washed coal, middling and rejects along with the MoU with the end-users should be submitted.

***

ANNEXURE-V

GENERIC TOR FOR AN OPENCAST COALMINE PROJECT for EC

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

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

(iii) A toposheet specifying locations of the State, District and Project site should be provided.

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

(v) Land use map (1: 50,000 scale) based on a recent satellite imagery of the study area mayalso be provided with explanatory note on the land use.

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

(vii) A contour map showing the area drainage of the core zone and 25 km of the study area (where the water courses of the core zone ultimately join the major rivers/streams outside the lease/project area) should also be clearly indicated in the separate map.

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

(ix) In case of any proposed diversion of nallah/canal/river, the proposed route of diversion/modification of drainage and their realignment, construction of embankment etc. should also be shown on the map as per the approval of Irrigation and flood control Department of the concerned state.

(x) Similarly, if the project involves diversion of any road/railway line passing through the ML/project area, the proposed route of diversion and its realignment should be shown in the map along with the status of the approval of the competent authority.

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

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

Sl. No.	Land use	Within ML area (ha)	Outside ML area (ha)	Total
1.	Agricultural land			
2.	Forest land			
3.	Wasteland			
4.	Grazing land			
5.	Surface water bodies			
6.	Settlements			
7.	Others (specify)			
	TOTAL			

(xii) Break-up of lease/project area as per mining plan should be provided.

(xiii) Impact of changes in the land use due to the project if the land is predominantly agricultural land/forestland/grazing land, should be provided.

(xiv) One-season (other than monsoon) primary baseline data on environmental quality - air (PM10, PM2.5, SOx, NOx and heavy metals such as Hg, Pb, Cr, As, etc), noise, water (surface and groundwater), soil - along with one-seasonmet data coinciding with the same season for AAQ collection period should be provided.

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

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

(xvii) Details of mineral reserves, geological status of the study area and the seams to be worked, ultimate working depth and progressive stage-wise working scheme until the end of mine life should be provided on the basis of the approved rated capacity and calendar plans of production from the approved Mining Plan. Geological maps and sections should be included. The Progressive mine development and Conceptual Final Mine Closure Plan should also be shown in figures. Details of mine plan and mine closure plan approval of Competent Authority should be furnished for green field and expansion projects.

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

(xix) Impact of mining on hydrology, modification of natural drainage, diversion and channeling 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 in the upstream and downstream of the project site. should be given.

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

(xxiii) Impact of blasting, noise and vibrations should be given.

(xxiv) Impacts of mining on the AAQ and predictions based on modeling using the ISCST-3 (Revised) or latest model should be provided.

(xxv) Impacts of mineral transportation within the mining area and outside the lease/project along with flow-chart indicating the specific areas generating fugitive emissions should be provided. Impacts of transportation, handling, transfer of mineral and waste on air quality, generation of effluents from workshop etc, management plan for maintenance of HEMM and other machinery/equipment should be given. Details of various facilities such as rest areas and canteen for workers and effluents/pollution load emanating from these activities should also be provided.

(xxvi) Effort be made to reduce/eliminate road transport of coal inside and outside mine and for mechanized loading of coal through CHP/ Silo into wagons and trucks/tippers.

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

(xxviii) Efforts be made for maximizing progressive internal dumping of O.B., sequential mining, external dump on coal bearing area and later re-handling into the mine void. --to reduce land degradation.

(xxix) Impact of change in land use due to mining operations and plan for restoration of the mined area to its original land use should be provided.

(xxx) Progressive Green belt and ecological restoration /afforestation plan (both in text, figures and in the tabular form as per the format of MOEFCC given below) and selection of species (native) based on original survey/land-use should be given.

Table 1: Stage-wise Land use 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					

* As a representative example

Table 2: Stage Wise Cumulative Plantation

S. No.	YEAR*	Green Belt		External Dump		Backfilled Area		Others (Undisturbed Area/etc)		TOTAL	
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.	34-37thYear (Post-mining)										

* As a representative example

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

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

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

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

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

(xxxiv) Risk Assessment and Disaster Preparedness and Management Plan should be provided.

(xxxv) Integration of the Environment Management Plan with measures for minimizing useof natural resources - water, land, energy, etc. should be carried out.

(xxxvi) Cost of EMP (capital and recurring) should be included in the project costand 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 tribal, 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 amenitiesbeing offered, etc and costs along with the schedule of the implementationof the R&R Plan should be given.

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

(xxxix) Corporate Environment Responsibility:

(xl)

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.

(xl) Details on Public Hearing should cover the information relating to notices issued in the newspaper, proceedings/minutes of Public Hearing, the points raised by the general public and commitments made by the proponent and theaction proposed with budgets in suitable time frame. These details should bepresented in a tabular form. If the Public Hearing is in the regional language,an authenticated English Translation of the same should be provided.

(xli) In built mechanism of self-monitoring of compliance of environmental regulations should be indicated.

(xlii) Status of any litigations/ court cases filed/pending on the project should be provided.

(xliii) Submission of sample test analysis of Characteristics of coal: This should include details on grade of coal and other characteristics such as ash content,S and heavy metals including levels of Hg, As, Pb, Cr etc.

(xliv) Copy of clearances/approvals such as Forestry clearances, Mining Plan Approval, mine closer plan approval. NOC from Flood and Irrigation Dept.(if req.), etc. wherever applicable.

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

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

****

ANNEXURE -VI

GENERIC TORs FOR AN UNDERGROUND COALMINE PROJECT

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

(ii) An EIA-EMP Report would be prepared for MTPA rated capacity to cover the impacts and environment management plan for the project specific activities on the environment of the region, and the environmental quality encompassing air, water, land, biotic community, etc. through collection of data and information, generation of data on impacts including prediction modeling for MTPA of coal production based on approved project/Mining Plan for MTPA.

(iii) Baseline data collection can be for any season (three months) except monsoon.

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

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

(vi) A contour map showing the area drainage of the core zone and 25 km of the study area (where the water courses of the core zone ultimately join the major rivers/streams outside the lease/project area) should also be clearly indicated in the separate map.

(vii) A detailed Site plan of the mine showing the proposed break-up of the land for mining operations such as the quarry area, OB dumps, green belt, safety zone, buildings, infrastructure, CHP, ETP, Stockyard, township/colony (within and adjacent to the ML), undisturbed area -if any, and landscape

features such as existing roads, drains/natural water bodies to be left undisturbed along with any natural drainage adjoining the lease /project areas, and modification of thereof in terms of construction of embankments/bunds, proposed diversion/re-channeling of the water courses, etc., approach roads, major haul roads, etc should be indicated.

(viii) Original land use (agricultural land/forestland/grazing land/wasteland/water bodies) of the area should be provided as per the tables given below. Impacts of project, if any on the land use, in particular, agricultural land/forestland/grazing land/water bodies falling within the lease/project and acquired for mining operations should be analyzed. Extent of area under surface rights and under mining rights should be specified.

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

Area under Surface Rights

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

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

(x) Details of mineral reserves, geological status of the study area and the seams to be worked, ultimate working depth and progressive stage-wise working scheme until the end of mine life should be provided on

the basis of the approved rated capacity and calendar plans of production from the approved Mining Plan. Geological maps and sections should be included. The Progressive mine development and Conceptual Final Mine Closure Plan should also be shown in figures. Details of mine plan and mine closure plan approval of Competent Authority should be furnished for green field and expansion projects.

(xi) Details of mining methods, technology, equipment to be used, etc., rationalefor selection of specified technology and equipment proposed to be used vis-à-vis the potential impacts should be provided.

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

(xiii) One-season (other than monsoon) primary baseline data on environmental quality - air (PM10, PM2.5, SOx, NOx and heavy metals such as Hg, Pb, Cr, As, etc), noise, water (surface and groundwater), soil - along with one-seasonmet data coinciding with the same season for AAQ collection period should be provided.

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

(xv) Impact of mining and water abstraction from the mine on the hydrogeology and groundwater regime within the core zone and 10 km buffer zone including long-term monitoring measures should be provided. Details of rainwater harvesting and measures for recharge of groundwater should be reflected in case there is a declining trend of groundwater availability and/or if the area falls within dark/grey zone.

(xvi) Study on subsidence including modeling for prediction, mitigation/prevention of subsidence, continuous monitoring measures, and safety issues should be carried out.

(xvii) Detailed water balance should be provided. The breakup 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.

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

(xix) Impacts of mineral transportation within the mining area and outside the lease/project along with flow-chart indicating the specific areas generating fugitive emissions should be provided. Impacts of transportation, handling, transfer of mineral and waste on air quality, generation of effluents from workshop etc, management plan for maintenance of HEMM and other machinery/equipment should be given. Details of various facilities such as rest areas and canteen for workers and effluents/pollution load emanating from these activities should also be provided.

(xx) Effort be made to reduce/eliminate road transport of coal inside and outside mine and for mechanized loading of coal through CHP/ Silo into wagons and trucks/tippers.

(xxi) Details of various facilities to be provided to the workers in terms of parking, rest areas and canteen, and effluents/pollution load resulting from these activities should also be given.

(xxii) The number and efficiency of mobile/static water sprinkling system along the main mineral transportation road inside the mine, approach roads to the mine/stockyard/siding, and also the frequency of their use in impacting air quality should be provided.

(xxiii) Impacts of CHP, if any on air and water quality should be given. A flow chart showing water balance along with the details of zero discharge should be provided.

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

(xxv) Greenbelt development should be undertaken particularly around the transport route and CHP. Baseline data on the health of the population in the impact zone and measures for occupational health and safety of the

personnel and manpower for the mine should be submitted.

(xxvi) Cost of EMP (capital and recurring) should be included in the project cost and for progressive and final mine closure plan.

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

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

Corporate Environment Responsibility:

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

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

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

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

(xxix) Details on Public Hearing should cover the information relating to notices issued in the newspaper, proceedings/minutes of Public Hearing, the points raised by the general public and commitments made by the proponent and theaction proposed with budgets in suitable time frame. These details should bepresented in a tabular form. If the Public Hearing is in the regional language, an authenticated English Translation of the same should be provided.

(xxx) In built mechanism of self-monitoring of compliance of environmental regulations should be indicated.

(xxxi) Status of any litigations/ court cases filed/pending on the project should be provided.

(xxxii) Submission of sample test analysis of Characteristics of coal: This should include details on grade of coal and other characteristics such as ash content, S and heavy metals including levels of Hg, As, Pb, Cr

etc.

(xxxiii) Copy of clearances/approvals such as Forestry clearances, Mining Plan Approval, mine closer plan approval. NOC from Flood and Irrigation Dept. (if req.), etc. wherever applicable.

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

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

****

ANNEXURE-VII

GENERIC TORs FOR A N O P E N C A S T -CUM UNDERGROUND COAL MINE PROJECT

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

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

(iii) The ToRs prescribed for both opencast and underground mining are applicable for opencast – cum underground mining.

ANNEXURE-VIII

Dated: 01.07.2024

To

The Member Secretary,
EAC (Coal Mining),
MOEF&CC,
NEW DELHI.

Subject: Sub-Committee visit – Gare Palma-II, Site Report – Reg.

Dear Sir,

Reference to MOEF&CC order No.F.No.J-11015/72/2016-1A-11(M) dated 13th May, 2024 regarding the site visit of Gare Palma-II Coal Mine from 17.05.2024 to 19.05.2024.

Sub-Committee visited the site and Sub-Committee report is enclosed for further necessary action please.

Encl: Sub-Committee Report (Pages 1 to 12)

01/07/2024

(MAHI PAL SINGH)
Chairman of Sub-Committee

Report of Site visit conducted during 17th -19th, May 2024 at Gare Palma Sector-II Coal Mine Project of M/s Maharashtra State Power Generation Co. having capacity of 23.60 MTPA (OC-22.0 MTPA+UG 1.6 MTPA) over an area of 2583.48 ha located at Tehsil - Tamnar and Gharghoda, District Raigarh, Chhattisgarh

Background Information:

The site visit was organized in reference to the proposal received in the Ministry of Environment, Forest and Climate Change (MoEF&CC) with respect to Gare Palma Sector-II Coal Mine Project of 23.60 MTPA (OC-22.0 MTPA+UGI.6 MTPA) over an area of 2583.48 ha located at Sub- District Tamnar and Gharghoda, District Raigarh, Chhattisgarh by M/s Maharashtra State Power Generation Co. Ltd. The proposal was considered in 9th EAC meeting dated 21st March, 2024 as agenda item 9.3.

The proposal was considered in the 9th EAC meeting dated 21.03.2024 as agenda item 9.3 wherein the Committee deferred the proposal for want of additional information including a site visit (copy of Minutes of Meeting attached). The observation of EAC as per approved MoM is as follows:

> ***"The committee is of the view that a site visit by EAC team along with representatives of SPCB, MoEFCC Regional office and other experts will be done."***

As per MoEF&CC office order number F. No. J-11015/72/2016-IA-II(M) dated 13th May, 2024, the Ministry has formed the following sub-committee consisting of five (5) members to conduct a site visit from May 17th -19th May, 2024:

Shri Mahi Pal Singh, Member, EAC	:	Chairman
Prof. Shyam Shankar Singh, Member, EAC	:	Member
Shri K. B. Biswas, Member, EAC	:	Member
Dr. Pasupala Ravi, Scientist DW, Sub-Office, MoEF&CC, Raipur	:	Member
Shri R K Sharma, Representative, Head Office, CECB, Raipur	:	Member

Site Visit Details and detail Observations:

In compliance of the Ministry's office order, the sub-committee visited the project site during May 17th -19th May, 2024.

01.7.2024

During the visit, members of the said MoEF committee met Chhattisgarh Environment Conservation Board (CECB) Official in person along with the team of MAHAGENCO to discuss on the issues related to Gare Palma II Coal Mine. The objective was to garner first-hand information about conduction of Pubic Hearing activities and processes adopted at their behest for conducting PH proceedings for the Gare Palma II mine

A presentation was shared with all the stakeholders for the clear understanding about the project, the NGT observations and the EAC directive on Gare Palma II Mine. The presentation also covered, the salient features of the coal block, including its location, area, size, and capacity of mine along with the relevant map of the coal block.

With the due permission of the EAC sub-committee chairman and the members, the presentation was given by MAHAGENCO for the details and clear understanding about the project, the NGT observations and the EAC directive on Gare Palma II Coal block.

Further, the chronological events related to Environment Clearance of the project was also discussed in detail. It was informed that EC has been granted by MOEF&CC on 11.07.2022.

Four (4) Appellants (Kanhai Ram Patel, Premashila Ratiya, Narad and Rinchin) filed case at NGT- Bhopal (central bench) in Sep'22, challenging the EC granted to GPII project.

The NGT vide its order dated 15.01.2024 quashed Environment Clearance on the concerns of Public Hearing, Carrying Capacity study, Hydrology study and ICMR report; and directed MoEF &CC to re-examine the matter.

After the presentation and discussion following observations have been made by Sub-Committee :

1. Regarding Public Hearing, the EAC (coal Mine) has already directed to CECB to submit the details about the public hearing including the details from beginning of the public hearing advertisement upto the final public hearing event held on 27.09.2019.

   The Sub – Committee also gone through the recorded video of Public hearing dt 27.09.2019. The CECB also submitted the documents related to Public hearing, which they have already submitted to MoEF&CC. The CECB

01.7.2024

representative assured the Sub Committee that CECB will submit all the details required at the earliest to Member Secretary, EAC (Coal Mine), MoEF&CC.

2. The Sub committee observed that they have not considered the coming / future carrying capacity of the area which is already having a number of cluster mines and Thermal Power Plants. As EAC (coal Mine) has already directed to CECB to engage IIT Bhilai / IIT Bombay to conduct the carrying capacity study of Tamnar Block and Gharghoda Block of Raigargh, Chhattisgarh. The Sub Committee also directed to CECB to do the carrying capacity study at earliest as directed by EAC also.

3. The Sub Committee visited the Kelo river site and directed to MAHAGENCO that in any condition there should be no any diversion of the Kelo river. The river riparian zone along its flow line health should not get disturbed. During the visit, the Sub Committee observed that agriculture fields of the farmers along the Kelo river are getting irrigated by the local farmers. Some of the local villagers villagers were seen using river water for bathing, swimming and washing of clothes. Kelo river is a perennial river serving the irrigation and water needs of the villagers residing in that area.

4. The Sub Committee asked the details about the public health issues and found that it was not properly covered. The Proponent shall get the Health assessment study done by AIIMS, Raipur or any other reputed Govt. Specialized institute for anticipated predicted impact of the project on the health of peoples living in the surrounding area.

5. The approaching road to Mine and village is a mix of kaccha and paaca road. At Gare Palma - II, the coal mine area is having tin shed being used by the security personnelto check for any infringement. No mining operations are yet identified in the coal mine area. This may be due to non availability of the mine opening permission, CTE etc. and therefore, it appears as a virgin mine area.

6. Another opencast coal mine (Gare Palma – III having Peak Rated Caped (PRC) of 5 MTPA) of Chhattisgarh State Power Generating Company Limited (CSPGCL) is under operation near Gare Palma-II but with production of 37 Thousand Tonne against the target of 270 Thousand Tonnes.

01.7.2024

Conclusion:

After the site visit and deliberations with the stakeholders, the team is of the opinion that Gare Palma II mining project may be considered for grant of EC when all the conditions / suggestions / requirements asked by the Sub Committee during the site visit of Gare Palma II Coal Mine will get completed / fulfilled.

(R. K. Sharma)
Representative of SPCB

(Dr. PasupalaRavi)
Representative of Regional Office , MoEF&CC

*
(K. B. Biswas)
Member

01.7.2024
(Prof Shyam Shanker Singh)
Member

07/07/2024
(Mahi Pal Singh)
Chairman

* Consent of Shri K B Biswas attached.

-4-

Photograph of the Site Visit from 17th -19th, May 2024 to Gare Palma Sector-II Coal Mine Project

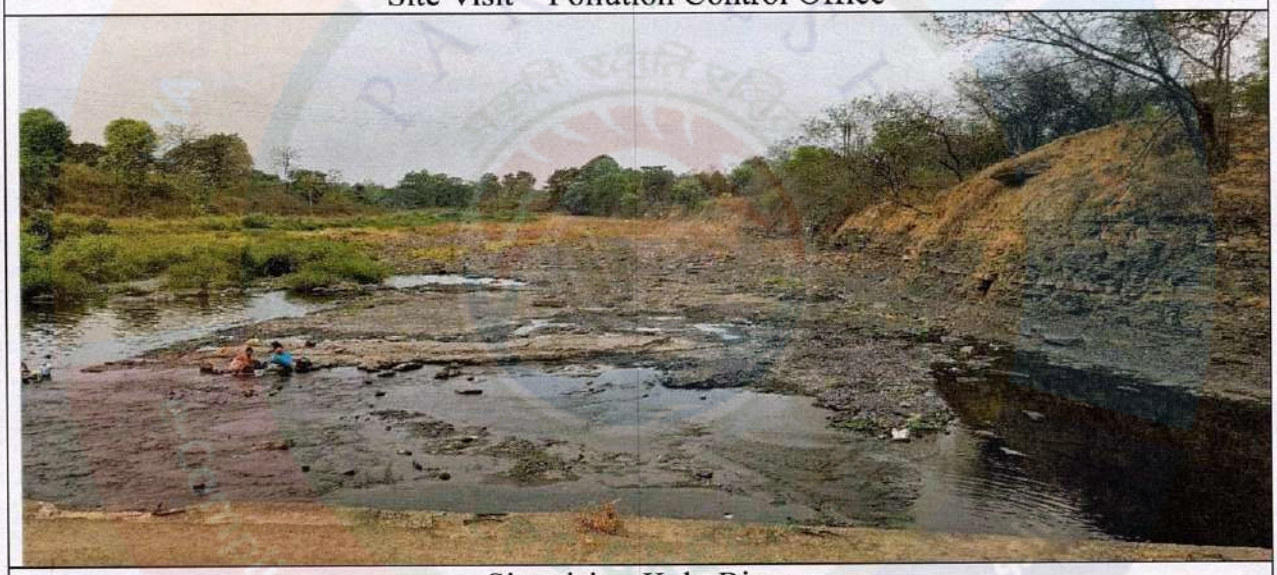
Meeting at Gare Palma – II Site on 18.06.1024

Site visit – Kelo River

01-7-2024

-5-

Site Visit – Pollution Control Office



Site visit – Kelo River

01.7.2024

-6-

Site visit – Kelo River

Site visit – Kelo River

01.7.2024

-7-

Temporary sheds made by villagers along Railway siding outside the Gare Palma II Coal Mine Area

01.7.2024

Email mpsingh.cea

Re: Fianl Site visit Report o Gare Palma II 17-19 May 2024 for signature.

From : biswaskiriti@gmail.com Mon, Jul 01, 2024 08:40 AM

Subject : Re: Fianl Site visit Report o Gare Palma II 17-19 May 2024 for signature.

To : mpsingh.cea <mpsingh.cea@nic.in>

Cc : singhss ggu <singhss.ggu@gmail.com>, hocecb@gmail.com, RAVI <pasupala.ravi@gov.in>, mpsingh1967@gmai.com, Amit Vashishtha <amit.vashishtha@nic.in>, sharadnegi1957@gmail.com

I agree with the report. Sri M.P.Singh being the head of the subcommittee is requested to submit the report.

On Sun, Jun 30, 2024, 23:50 mpsingh.cea <mpsingh.cea@nic.in> wrote:

> Members of the Sub Committee
>
> Request for signature on the last page of attached Final site visit report of Gare Palma II.
> Gare Palma II also listed in the next EAC(Coal Mining) meeting on 02.07.2024.
> Tomorrow is the day of submission of Final site visit report to the Chairman, EAC (Coal Mining), so sign and return back on email or whatsup.
>
> *With regards,*
>
> ***Mahi Pal SINGH***
> ***Chairman of the Sub Committee***
> *Principal Chief Engineer - I*
> *Central Electricity Authority*
> *Sewa Bhawan, R. K. Puram,*
> *New Delhi 110021*
>
> ---
>
> **From:** "mpsingh.cea" <mpsingh.cea@nic.in>
> **To:** "biswaskiriti" <biswaskiriti@gmail.com>, "singhss ggu" <singhss.ggu@gmail.com>, hocecb@gmail.com, "RAVI" <pasupala.ravi@gov.in>
> **Cc:** "Amit Vashishtha" <amit.vashishtha@nic.in>, "sharadnegi1957" <sharadnegi1957@gmail.com>
> **Sent:** Thursday, June 27, 2024 3:28:36 PM
> **Subject:** Site visit Report o Gare Palma II 17-19 May 2024
>
> Members of the Sub Committee
>
> Request to see the site visit report of Gare Palma II is attached. Gare Palma II also listed in the next EAC(Coal Mining) meeting on 02.07.2024. So request to submit the comments on the report within two days.

ANNEXURE-IX

LIST OF PARTICIPANTS OF EAC (COAL) IN 13th MEETING HELD ON 1th JULY & 2th JULY, 2024 THROUGH HYBRID MODE

S. No.	Name & Address	Role	01.07.2024	02.07.2024
1.	Dr. Sharad Singh Negi (I.F.S. Retd.)	Chairman	Present	Present
3.	Shri Inder Pal Singh Matharu, IFS (Retd.)	Member	Present	Present
3.	Shri Lalit Kapur	Member	Present (VC)	Present (VC)
4.	Dr. Umesh Jagannathrao Kahalekar	Member	Present	Present
5.	Dr. Santosh Kumar Hampannavar	Member	Present (VC)	Present (VC)
6.	Shri Savalge Chandrasekhar	Member	Present (VC)	Present (VC)
7.	Shri K. B. Biswas	Member	Present (VC)	Present (VC)
8.	Prof. Shyam Shanker Singh	Member	Present	Present
9.	Dr. Vinod Agrawal	Member	Present	Present
10.	Dr Nazimuddin, Scientist - F	Representative of the Central Pollution Control Board	Present (VC)	Present (VC)
11.	Shri Mahi Pal Singh, Chief Engineer	Representative of the Central Electricity Authority (CEA)	Present	Present
13.	Shri Harmeet Sahaney	Representative of the Indian Meteorological Department (IMD)	Absent	Absent
13.	Prof. R M Bhattacharjee	Representative of IIT/ISM Dhanbad	Absent	Absent
14.	Shri Amit Vashishtha	Member Secretary	Present	Present
MOEF&CC				
1.	Sh. Mohit Saxena	Scientist 'D'	Present	Present

APPROVAL OF CHAIRMAN EAC