

MINUTES OF 42nd MEETING OF THE EXPERT APPRAISAL COMMITTEE FOR ENVIRONMENT APPRAISAL OF COAL MINING PROJECTS HELD ON 5th APRIL, 2023 THROUGH VIDEO CONFERENCING.

Confirmation of the Minutes of 41st Meeting of the EAC (Coal): The minutes of the 41st Meeting of the EAC (Coal) held during 13-14 March, 2023 has been confirmed by the Chairman.

Opening Remarks of the Chairman: At the outset, the Chairman welcomed the Expert members & other participants and requested to start the proceeding as per the agenda adopted for this meeting.

Consideration of Proposals: The 42nd meeting of the Expert Appraisal Committee (EAC) for coal mining projects was held during 5th April, 2023 through video conferencing. The EAC considered proposals as per agenda adopted for the meeting. List of participant attended the meeting is annexed. The details of deliberations held & decisions taken in the meeting are as under.

Agenda No. 42.1

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 by M/s Mahanadi Coalfields Limited located in IB Valley Coalfield, Tehsil Lakhanpur District Jharsuguda (Odisha) - Environmental Clearance - reg.

[Online Proposal No. IA/OR/CMIN/92064/2019; File No. J-11015/391/2012-IA.II(M)]

42.1.1 The proposal is for Environmental Clearance for Amalgamation of three mines Lakhanpur, Belpahar and Lilari Open Cast mine with expansion in production capacity of 40 MTPA and increase in mine lease area of 4399.246 ha by M/s Mahanadi Coalfields Limited located in IB Valley Coalfield, Tehsil Lakhanpur District Jharsuguda (Odisha).

42.1.2 Details of the proposal, as ascertained from the proposal documents are given as under:

- (i) The project area is covered under Survey of India Topo Sheet No. 64O/13 & 64O/14 (RF 1:50,000) and is bounded by the geographical coordinates ranging from Latitude 21°42'25.89" to 21°47'24.82"N and Longitudes 83°49'38.9" to 83°49'53"E.
- (ii) Coal linkage of the project: Power Plants and basket linkage.
- (iii) Joint venture cartel has been formed: Not Applicable
- (iv) Project does not fall in the Critically Polluted Area (CPA), where the MoEF & CC vide its OM dated 13th January, 2010 has imposed moratorium on grant of environment clearance. However, the project falls in the Severely Polluted Area as per the latest CEPI scores published by NGT in its report on 14.11.2019.
- (v) Employment generation: 4249 nos. of direct employment will be generated.
- (vi) The project is reported to be beneficial in terms of
 - a) Improvement in Physical Infrastructure

- b) Improvement in Social Infrastructure
 - c) Increase in employment potential
 - d) Contribution to the Exchequer (both State and Central Govt.)
 - e) Post mining enhancement of Green Cover
 - f) Improvement of Electrical Power Generation & availability of electricity for 24x7 in rural areas. Overall economic growth of the country.
- (vii) The proposal is for grant of integrated EC of 40 MTPA in ML area of 4399.246 Ha as per the EIA Notification 2006 and its further amendments issued from time to time.
- (viii) Previously EC granted by MoEF&CC to the individual projects named Lakhanpur, Belpahar and Lilari vide letters-
- J-11015/391/2012-IA-II (M) for Lakhanpur OCP (22.5 Mty) dtd 30.05.2022
 - J-1015/189/2008-IA-II (M) for Belpahar OCP (9 Mty) 22.01.2015, 15.01.2021 & 06.02.2023.
 - J-11015/27/89-IA for Lilari OCP (0.8 Mty) dtd 30.07.1990.
- (ix) Total mining lease area as per block allotment is 4399.246 Ha. Mining Plan & Mine closure plan was approved by MCL Board in its 205th Board meeting held on 23rd October 2018 while published through minutes on 31.10.2018.
- (x) The land usage pattern of the project is as follows:

Pre mining land use (Area in Ha)

S. No	Particulars	Within ML Area (ha)	Outside Lease Area (ha)	Total Area (ha)
1	Agricultural land (tenancy)	1651.551	69.037	1720.588
2	Forest land	958.695	37.693	996.388
3	Wasteland (Non-forest)	1621.228	50.413	1671.641
4	Grazing land	87.906	12.526	100.432
5	Surface water bodies	14.515	0.00	14.515
6	Settlements	65.351	173.962	239.313
	Total	4399.246	343.631	4742.877

During-mining land use details (Area in Ha)

S. No	Particulars	Within ML Area (ha)	Outside ML Area (ha)	Total Area for 40 MTY (ha)
a)	Excavation area	3565.484	0	3565.484
b)	Safety Zone 7.5 m	24.095	0	24.095
c)	External OB dump	22.650	0	22.650
d)	Temp. topsoil storage	41.994	0	41.994
e)	Temp. Washery reject storage	124.002	0	124.002
f)	Infrastructure	495.018	0	495.018

g)	300/500 m blasting zone and others	126.003	0	126.003
	In Mining Lease (ML)	4399.246	0	4399.246
h)	Outside blasting Zone, now outside ML	0	169.669	169.669
i)	Residential Colony / Rehabilitation Site	0	173.962	173.962
	Outside ML	0	343.631	343.631
	Total Project Area	4399.246	343.631	4742.877

Post Mining

S. No.	Category	Plantation	Unfilled void	Quarry Bottom & Slope	Undisturbed / Built up area	Total
1	Quarry excavation	3105.033	23.871	436.58	0	3565.484
2	OB dumps (external)	22.65	0	0	0	22.65
3	Infrastructure	495.018	0	0	0	495.018
4	Blasting danger zone/Green belt	150.098	0	0	0	150.098
5	Other areas incl. temporary soil dump & rejects storage	165.996	0	0	0	165.996
6	Mine Lease Area (A)	3938.795	23.871	436.58	0	4399.246

- (xi) Total geological reserve was 1720.256 MT. The mineable reserve is 1262.86 MT as per approved Mining Plan & Mine closure plan, extractable reserve is 1262.86 MT with per cent of extraction as 73.41%.
- (xii) 04 seams with maximum thickness 36.92 m. The coal grade is G11. The stripping ratio is 3.43 cum/tonne. The average gradient is 4o to 6o.
- (xiii) The method of mining would be Opencast by Shovel - Dumper/ Ripper-dozer in OB/ parting; Surface miner, pay loader & tipper in coal. Coal production will be done by using 2200/3800 mm drum dia surface miners, 35T multi-wheel trucks are proposed with 6.4 cum Front end loaders. 50 T dumpers will be replaced by 60 T dumpers. 100 T dumpers are proposed for OB excavation with excavators having 9.5 cum and 12 cum buckets. 244 T dumpers are proposed with 34 cum excavator.
- (xiv) The life of mine is 41 Years as per approved MP&MCP by MCL Board.
- (xv) There is one external OB dump with Quantity of 4.33 Mcum in an area of 22.65 Ha while one internal dump with quantity 4294.29 Mcum in an area of 3541.613 Ha.
- (xvi) Total quarry area is 3565.484 ha out of which backfilling will be done in 3541.613 Ha. While unfilled mine void will be created in an area of 23.871 Ha with a maximum depth of 30 m. Backfilled quarry area of 3105.033 Ha shall be reclaimed with plantation/grass. Apart from this 436.58 Ha will remain as quarry bottom and slope which will be grass carpeted.
- (xvii) The entire coal production of 40.0Mty will be by Surface Miner.

Coal Transportation: The coal will be dispatched through rail and road mode.

- Out of the total 40.0 Mty of coal, 10.0 Mty of coal will be transported by conveyors (75% completed will be commissioned by 30.06.2023) 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.

(xviii) Reclamation Plan in an area of 3973.585 Ha, comprising of 3105.033 Ha of internal dump, 22.65 Ha of external OB dump, 150.098 Ha of Blasting danger zone/green belt and other areas for an area of 695.804 Ha incl. Infrastructure and outside lease area.

(xix) The total forest area involved in the project is 996.388 Ha out of which stage II FC for 541.622 ha has already been granted by MoEF& CC and 37.693Ha falls outside the mine lease area for which forest diversion is not required and will be kept intact.

Sl. No.	Diversion Particulars	Area in Ha	Date
1	Stage II Forest clearance for Lakhanpur OCP	233.43	08-10-1990
2	Stage II Forest clearance for Belpahar OCP	103.52	02-06-2000
3	Stage II Forest clearance for Belpahar OCP	19.70	15-09-2014
4	Stage II Forest clearance for MGR by OPGC	10.453	19-01-2015
5	Stage II Forest clearance for MGR by OPGC	12.319	10-01-2020
6	Stage II Forest clearance for Lilari OCP	162.20	14-08-1990
	Total	541.622	

The Proposal for forest diversion of 417.073Ha and change of land use of 171.774 Ha has been applied on 16.03.2019 and the proposal was considered in FAC meeting held on 13.06.2022 and 17.10.2022 and FAC has directed for site visit and other queries were compiled and the proposal was considered in FAC meeting held on 23.02.2023. The FAC meeting held on 23.02.2023. FAC has sought queries for further Consideration of proposal in FAC meeting.

- (xx) No National Parks, Wildlife Sanctuaries and Eco-Sensitive Zones have been reported with 10 km boundary of the project.
- (xxi) Wildlife Conservation plan: Site-Specific Wildlife Conservation Plan for an amount of Rs. 78.784 Cr has been approved by Divisional Forest Officer, Jharsuguda on 03.01.2023 and Divisional Forest Officer, Sambalpur on 19.01.2023 and forwarded to Regional Chief Conservator of Forest (RCCF), Sambalpur. The RCCF, Sambalpur has approved the plan and forwarded to Principal Chief Conservator of Forest, Wildlife (PCCF) on 25.01.2023.

The report is pending for final approval with PCCF.

- (xxii) Total estimated water requirement is 12.89 MLD. The level of ground water ranges from 5.40 to 7.02 mbgl (pre-monsoon) and 2.24 to 4.83 mbgl (post-monsoon).
- (xxiii) NOC from the Central Ground Water Authority for the individual projects Lakhanpur and Belpahar projects (Lilari is a closed mine, hence no water is abstracted from this mine) have been obtained vide letter CGWA/NOC/MIN/ORIG/2020/9248 dated 09.12.2020. for Lakhanpur OCP while for Belpahar OCP vide letter CGWA/NOC/MIN/ORIG/2020/9025 dated 26.11.2020. Application for renewal of the applications are under process at CGWA.
- (xxiv) The public hearing for Integrated Lakhanpur Belpahar Lilari Project of coal production capacity 40.00 MTPA of M/s Mahanadi Coalfields Limited' was conducted at Kandsar Primary M.E school on 06.12.2021, at 11.00 AM. Additional District Magistrate supervised and presided over the Public Hearing Process. The issues raised during Public Hearing were regarding Employment, Peripheral Development, R&R and Dust generation.
- (xxv) Consent to operate (CTO) will be obtained from the State Pollution Control Board after obtaining Environment Clearance from MoEF&CC for this project.
- (xxvi) Yes, Lilari and Pulijore streams are passing through the mine lease and are proposed to be diverted as per the approved MP&MCP in the 29th year of operation.
- (xxvii) The baseline study generation for this project has been conducted for this project from Mar-May 2021 (pre-monsoon season). All the values are well within the prescribed limits. Regular monitoring of ambient air quality will be carried out on fortnightly basis for this project. The documented report is being and will be submitted to Regional Office, MoEF&CC, and Bhubaneswar and also to MoEF&CC along with half yearly EC compliance report.
- (xxviii) No court cases are pending in the court for Lakhanpur OCP while for Belpahar OCP, a case has been registered under Section 15 & 16 of Environment Protection Act, 1986 at Sub-Divisional Judicial Magistrate, Jharsuguda vide ref. no. 2(C) CC NO-170 of 2013 and it is waiting for trial.
- (xxix) The project does not involve violation of the EIA Notification, 2006 and amendment issued there under.
- (xxx) The project involves 1763 project affected families. R&R of the PAPs is being done as per Orissa Rehabilitation and Resettlement Policy 2006.
- (xxxi) Total capital cost of the project is Rs. 2434.75 Crores. CSR Cost - 2% of the average net profit of the company for the three immediately preceding financial years or Rs. 2.00 per tonne of coal production of the previous year whichever is higher. R&R Cost Rs. 479.91 Crores. Environmental Management Cost – Rs. 515.21 Crores.
- (xxxii) Consent to operate (CTO) will be obtained from the State Pollution Control Board after securing EC from MoEF&CC for this project.
- (xxxiii) Past Production details comparison with existing EC- Not applicable as this is a fresh project.

42.1.3 The Committee after detail deliberation observed the following points:-

- i. PP has obtained the following Environmental Clearance for Lakhanpur, Belpahar and Lilari Opencast Mine:
 - a) Expansion for Lakhanpur Opencast Coal mine project from 15 to 18.75 MTPA vide letter dated 21.05.2014 by M/s Mahanadi Coalfields Limited.
 - b) Expansion for Lakhanpur Opencast Coal mine project from 18.75 MTPA to 21 MTPA vide letter dated 28.02.2018 by M/s Mahanadi Coalfields Limited.
 - c) Expansion for Lakhanpur Opencast Coal mine project from 21 MTPA to 22.5 MTPA (increase of 10% w.r.t. 15 MTPA) in the land area of 2452 ha under OM dated 07.05.2022.
 - d) Expansion for Belpahar Opencast Coalmine Project from 6 MTPA to 9 MTPA in an ML area of 1503.683 ha vide letter dated 22.01.2015.
 - e) Amendment in EC dated 22.01.2015 for Belpahar Opencast Coalmine Project vide Ministry's letter dated 15.01.2021.
 - f) Extension of validity of EC dated 22.01.2015 and 15.01.2021 for Belpahar Opencast Coalmine Project vide Ministry's letter dated 06.02.2023 for extension upto March, 2024.
 - g) Lilari Opencast project of M/s South Eastern Coalfield limited with production capacity of 1.69 MTPA in the ML area of 201.00 ha. vide letter dated 30.07.1990.
 - h) Coal washery of 10 MTPA capacity in mine lease area of 39.35 ha by M/s Mahanadi Coalfields Limited vide letter dated 30.03.2017.
 - i) Amendment of Coal washery of 10 MTPA capacity in mine lease area of 39.35 ha by M/s Mahanadi Coalfields Limited vide letter dated 15.06.2017.
- ii. Public Hearing was conducted on 06.12.2021 for capacity of 40 MTPA over MLA of 4399.246 ha.
- iii. Life of mine is upto 41 years as per approved MP & MCP by MCL Board.
- iv. The FC has been obtained for 541.622 ha out of total forest land 958.695 ha falls inside the mine lease area of 4399.246 ha.
- v. Mining Plan for Lakhanpur-Belpahar-Lilari OCP (40.0 MTY) was approved by MCL Board in its 205th meeting held on 23.10.2018.
- vi. System generated Standard ToR has been issued by MoEF&CC vide letter no. IA-J-11015/15/2009-IA.II (M) dated 28th April 2019.
- vii. Baseline data generation was done during March 2021 to May 2021.
- viii. No Ecologically sensitive areas such as National Park, Sanctuary, Biosphere Reserve etc. in & within 10 km radius from the project.
- ix. The Lilari stream flowing in between Lakhanpur OCP and Lilari OCP. Pulijhor stream (a small seasonal stream) is flowing through the mine property, the catchment area of which lies near the south-western limit of the quarry boundary.
- x. Schedule-I species has been observed such as Elephant (*Elephas maximus*), Sloth Bear (*Melursus ursinus*), Indian Pangolin (*Manis crassicaudata*), Leopard (*Panthera pardus*), Peacock (*Pavo cristatus*) & Indian Rock Python (*Python molurus*) present in the Buffer Zone of Mine lease area.

42.1.4 *The Committee after detail deliberation noted that this proposal is for the expansion as well as amalgamation of three mines with addition of Coal washery within mine lease area. However, PP termed it as integrated only without highlighting complete picture of various projects in the application of TOR, which has resulted confusion in understanding the project in entirety. By knowing facts that number of projects have already involved, MoEF&CC has Environment Clearance to these projects time to time. But PP has proposed for the expansion and amalgamation of various EC without emphasizing environmental implication involved therein and made the route of merger with convenience from production point of view only. The followings analysis made accordingly:*

- a) *In one of ECs i.e Lakhanpur OCP, PP has recently obtained the EC with enhanced capacity of 50% of production capacity i.e. upto 22.5 MTPA (w.r.t. 15 MTPA) vide letter dated 30.05.2022. MCL board has submitted approved the Mining Plan & Mine Closure Plan for Lakhanpur OCP with capacity of 22.5 MTPA vide letter dated 22.06.2022. The committee had deferred the proposal for strictly submission of the compliance of EC issued under OM dated 07.05.2022 in the 39th EAC meeting held during 12 to 13 January, 2023. PP without complying the conditions; and rather merged this project with others keeping all observation of EAC set aside. EAC noted it as casual approach and cautioned CMPDI as well as project proponent not to repeat such attempt in future and instructed to complete the pending queries on this mine first and submit the project first with proper compliance.*
- b) *In another project, PP has obtained Expansion of Belpahar OCP, later it got amendment and also obtained extension of validity of ECs vides letters dated 22.01.2015, 15.01.2021 and 06.02.2023 with certain terms and condition emphasizing proper environment safety measures. While obtaining the extension, PP had also submitted the approved 2nd addendum to Mining plan (including Progressive Mine closure plan) by MCL Board vide Ref. no. MCL/SBP/CS/BD-249/Exct/2022/12673 dated 26.07.2022. Here it is surprising to note that PP has already another integrated mine plan, which got approved by their Board in its 205th meeting held on 23.10.2018. It means that PP has made 2 mines plan in hands, which put a question unidirectional move of PP without respecting environmental concerns contained therein. It gave the impression that PP has been obtaining ECs and its extension purely for purpose of coal extraction without putting efforts on complying the environment conditions. Earlier the Committee recommended the amendment/extension in EC for expansion of Belpahar OCP with important specific conditions to comply within the six months of issue of letter. Therefore it is evident that PP has no attention to comply the EC conditions. Therefore EAC finally desired to have deliberation on this project separately.*
- c) *PP had obtained EC for Lilari Opencast project in the name of M/s South Eastern Coalfield limited with production capacity of 1.69 MTPA in the ML area of 201.00 ha vide letter dated 30.07.1990. The name has not been attempted to change in to M/s MCL.*
- d) *The PP had obtained the EC and its amendment for Coal washery with capacity of 10 MTPA in mine lease area of 39.35 ha by M/s Mahanadi Coalfields Limited vide letter dated 30.03.2017 and 15.06.2017 respectively. However, in present proposal of amalgamation, PP has integrated this project and the same has been informed to be a part of mine plan dated 23.10.2018. On enquiry, PP submitted no plan how the condition would be met with mergers of ECs. It is also noted with facts that coal evacuation plan of mine cannot be isolated from mine transportation system.*

The committee on the basis of above observations noted that the project proponent has submitted immature proposal without paying attention on compliances of previous ECs ignoring progressive mine closure activity and has misinformed the Committee time to time with different version about mine plans and has been taking Environmental Clearance from MoEF&CC. After having exhaustive discussions, the Committee concluded that the PP is unable to synchronize the instant proposal with the ongoing projects. The project proponent has been working with different mining plan and progressive mine closure plan for the above mines. PP has no road map to work on Mining plan for the instant project. The committee found that the mines are still in operation, which require modified mine plan after 5 years. The committee strongly emphasized that the project proponent should not be synchronized in present manner, which results legal complication also. The committee also raised the concern mainly related to the completion of compliances of all ECs

The Committee expressed displeasure upon the instant project as it was not discussed at the time of Terms of Reference. The Committee advised to the project proponent for resolving the issues pertaining to the Mine on priority basis. Finally The Committee concluded that the project proponent has been fabricated in a complex form without giving emphasis on environmental concerns in respective projects during their operation and their closure.

In view of the above, the committee finally opined that the project proponent must complete following course of action and submit the following documents:-

- (i) The PP shall take revalidation of the Environmental Clearance dated 30.05.2022 for Lakhanpur Opencast Mine after fulfilling compliances of deferred points contained under the project.*
- (ii) PP shall submit the status of the progressive mine closure plan for all of above mines along with the synchronization of Mining plan. A drone survey (15 minutes each) of individual mines about mine closure activity to be prepared and to be shown before EAC.*
- (iii) PP shall submit the updated revised Mine Plan and Mine Closure Plan as per current scenario and existing ECs of these three mines.*
- (iv) The PP shall submit the compliance of all the conditions stipulated in Environmental Clearances and its amendments within six months to IRO, MoEF&CC and submit the certified compliance all these documents.*
- (v) PP shall submit the information in Tabular form w.r.t. mine lease area, production capacity, additional land requirement, Part of mine lease areas to be surrendered.*
- (vi) Separately , the PP shall submit the drone video of mine along with washery; the video shall include coal evacuation system and implementation of the mechanized system in the coal mine.*
- (vii) The PP shall submit the reserves available below the forest area to be deforested in future for mining purposes.*
- (viii) The PP shall submit proper justification for the instant project. The PP shall also submit scope of the proposals proposed for amalgamation through Standard ToR.*

In view of the above, the committee **returned** the proposal and suggested to relook the project in entirety and stick to mine plans of individual mine. The project proponent require to recast the entire proposal on the basis of the above directions.

Agenda No. 42.2

Expansion of Baranj Opencast Coal Project from 2.5 MTPA to 3.75 MTPA in the Mine Lease area of 1457.20 Ha of M/s Karnataka Power Corporation Limited located in District Chandrapur, Maharashtra - Environmental Clearance under provisions of 7(ii) of EIA Notification, 2006 under OM dated 11.04.2022– reg.

[Online Proposal No. IA/MH/CMIN/419089/2023; File No. J-11015/400/2005-IA.II(M)]

42.2.1 The proposal is for Environmental Clearance under provisions of 7(ii) of EIA Notification, 2006 under OM dated 11.04.2022 for Baranj Opencast Coal Project 2.5 MTPA in the Mine Lease area of 1457.20 Ha of M/s Karnataka Power Corporation Limited located in District Chandrapur, Maharashtra.

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

- (i) The project area is covered under Survey of India Topo Sheet No .56 P/4.and is bounded by the geographical coordinates ranging from Latitude 20⁰6’43” E to 20⁰8’59” E and Longitude 79⁰ 5’47” N to 79⁰ 8’28” N.
- (ii) Coal linkage of the project is proposed for Captive use for Bellary TPP.
- (iii) Joint venture cartel has been formed - No
- (iv) 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.
- (v) Employment generation direct employment to 425 Persons will be provided from the project.
- (vi) The project is reported to be beneficial in terms of Social, Financial & Environmental aspects.
- (vii) Earlier, the environment clearance to the project was obtained under EIA Notification, vide Ministry’s letter No. J-11015/400/2005-IA.II (M) dated 18.05.2006 for 2.5 MTPA in mine lease area of 1457.20 ha.
- (viii) Total mining lease area as per block allotment is 1457.20 ha. Mining Plan (Including Progressive Mine Closure Plan) has been approved by the MOC on 24/08/2011
- (ix) The land usage pattern of the project is as follows:

Pre-mining land use details (Area in Ha)

S. No.	Land Use	Within ML Area	Outside ML Area	Total
1	Agricultural Land	1276.21		1276.21
2	Forest Land	84.41		84.41
3	Wasteland	96.58		96.58
4	Grazing Land			

5	Surface Water Bodies			
6	Settlements			
7	Others (Specify) Staff Colony		20.00	20.00

Post Mining

S. No.	Land use	Land use (ha)				Total
		Plantation	Water Body	Public Use	Undisturbed	
1	External OB Dump	240				240.00
2	Top Soil Dump					
3	Excavation	911	190			1101.00
4	Roads					
5	Built-up Area	3.00		3.00		6.00
6	Green Belt					
7	Undisturbed Area			15.00		15.00
8	Safety Zone / Rationalization Area	30.99	24.21	40.00		95.20
9	Diversion / Below River /Nala /Canal					
10	Water Body					
11	Staff Colony					
	Total Area =	1184.99	214.21	58.00		1457.20

- (x) Total geological reserve reported in the mine lease area is 157.72 MT with 128.52 MT mineable reserve. Out of total mineable reserve of 128.52.MT, 128.52 MT are available for extraction. Percent of extraction is 81.48.%.
- (xi) One seams with thickness ranging from 8m – 11 m are workable. Grade of coal is G-9.,stripping ratio 7.17 while gradient is 1 to 5-9.
- (xii) Method of mining operations envisages by Opencast method.
- (xiii) Life of mine is 27 years.
- (xiv) The project has 2 external OB dumps in an area of 240 ha with 60.m height and 101.68 Mm³ of OB. One internal OB in an area of 911 ha with 814.46 Mm³ of OB is envisaged inthe project.
- (xv) Total quarry area is 1101 ha out of which backfilling will be done in 911 ha while final mine void will be created in an area of 190.ha with a depth of 45 m. Backfilled quarry area of 911 ha shall be reclaimed with plantation. Final mine void will be converted into a waterbody.
- (xvi) Transportation of coal has been proposed by dumper in mine pit head, from surface to siding byRoad and at sidings by Rail.
- (xvii) Reclamation Plan in an area of 1184.99 ha, comprising of 240 ha of external dump, 911 ha of internal dump and 33.99. ha of green belt. In addition to this, an areaof ha, included in

- the safety zone/rationalization area, has also been proposed for green belt development.
- (xviii) 84.41 ha of forest land has been reported to be involved in the project. Approval under the Forest (Conservation) Act, 1980 for diversion of 84.41 ha of forest land for non-forestry purposes has been obtained vide MoEF&CC letter No. 8-52/2011-FC dated 22/12/2021
 - (xix) Please mention any National Parks, Wildlife Sanctuaries and Eco-Sensitive Zones fall within 10 km boundary of the project - None
 - (xx) Wildlife conservation plan for schedule – I species has been prepared and approved by PCCF.
 - (xxi) The ground water level has been reported to be varying between 4 m to 12 m during pre-monsoon and between 1.1 m to 9.9 m during post-monsoon. Total water requirement for the project is 600 KLD.
 - (xxii) Application for obtaining the approval of the Central Ground Water Authority and necessary NOC obtained which is valid till 24/08/2024.
 - (xxiii) Public hearing for the project of 2.5 MTPA capacity in an area of 1457.20 ha was conducted on 18-06-2005 at Bhachat Safalya Bhavan, Collector Office, Chandrapur under the Chairmanship of Collector Chandrapur. Major issues raised in the public hearing include Employment, Land Compensation, Infrastructure facilities like water, road, medical facilities, Pollution control measures. Appropriate action to address the issues raised in the Public Hearing have already been taken.
 - (xxiv) Consent to Operate for the existing capacity was obtained from the State PCB on 15.08.2022 and is valid till 31/03/2023.
 - (xxv) Regular monitoring of ambient air quality is being carried out on fortnightly basis. The documented report is submitted to SPCB on monthly basis and also to MoEF&CC along with half yearly EC compliance report. In general, the results of ambient air quality monitoring data were found within prescribed limits except few aberrations which can be attributed to the specific local conditions during the day of sampling.
 - (xxvi) No court cases, violation cases are pending against the project of the PP.
 - (xxvii) The project does not involve violation of the EIA Notification, 2006 and amendment issued thereunder. The coal production from the mine was started from the year onwards. No excess production of coal from the sanctioned capacity has been realized since the commencement of mining operations.
 - (xxviii) The project involves 595 project affected families. R&R of the PAPs will be done as per R&R Agreement 2016.
 - (xxix) Total cost of the project is Rs. 65039 lakhs. Cost of production is Rs 3862.77 /- per tonne., CSR cost is Rs. 1 per tonne, R&R cost is Rs 20/tonne, Environment Management Cost is Rs 3.25 crores.
 - (xxx) Consent to operate (CTO) was obtained from the State Pollution Control Board on and is valid till 31/03/2023.

42.2.3 The committee during the EAC meeting observed the following:

- (i) PP has obtained the Environmental Clearance for 2.5 MTPA in mine lease area of 1457.20 ha vide letter No. J-11015/400/2005-IA.II (M) dated 18.05.2006 for 2.5 MTPA in mine lease area of 1457.20 ha.

- (ii) The project has been transferred from M/s Karnataka Emta Coal Mines Ltd to M/s Karnataka Power Corporation Limited vide letter No. J-11015/400/2005-IA.II (M) dated 06.07.2015 for 2.5 MTPA in the lease area of 1457.20 ha.
- (iii) Approved Mining Plan (Including Progressive Mine Closure Plan) for mine lease area of 1457.20 ha by MOC on 24/08/2011.
- (iv) PP has obtained the approval for diversion of 84.41 ha of forest land for non-forestry purposes vide letter No. 8-52/2011-FC dated 22/12/2021.
- (v) PP has prepared the Wildlife conservation plan and same was approved by PCCF.
- (vi) PP has obtained the permission for the intersection of Ground water from Central Ground Water Authority valid from 25.08.2022 to 24.08.2024.
- (vii) Public hearing was conducted on 18-06-2005 for 2.5 MTPA capacity in area of 1457.20 ha.
- (viii) Consent to Operate for capacity of 2.5 MTPA obtained from SPCB on 15.08.2022 and was valid till 31/03/2023.
- (ix) PP has submitted the compliance of conditions stipulated in the OM dated 11.04.2022 :

S. No.	Condition as per OM	Compliance of condition
i	The project should have gone through the public hearing process, at least once, for its existing EC capacity on which expansion is being sought, except those category of projects which have been exempted as per para 7 III (i) of EIA Notification 2006 and its amendments.	The Public Hearing for 2.50 MTPA Capacity was held on 18-06-2005.
ii	There should not be change in Category of the project from 'B2' to 'B1' or 'A' due to proposed modernisation or expansion.	The Projects is a Category "A" Project since beginning.
iii	There is no additional land acquisition or forest land diversion involved for the proposed expansion or there is no increase in lease area with regard to mining vis-à-vis the area mentioned in the EC, based on which public hearing has been held earlier.	In Phase-1, there will be no change in the leasehold area, forest land, displacement of people / villages, diversion of roads / power lines / water channels etc.
iv	The proposed expansion shall not be more than 50% of production capacity as mentioned in the prior EC, issued on the basis of public hearing held and the same shall be allowed in minimum three phases.	The proposed expansion of 3.75 MTPA in Phase – 1 is 50% of the existing EC Capacity.
v	Predicted environmental quality parameters arising out of proposed expansion/modernization shall be within the prescribed norms and the same shall be maintained as per prescribed norms.	The Predicted environmental quality parameters arising out of expansion up to 3.75 MTPA are within the prescribed norms.

vi	The proposed expansion should not result in reduction in the greenbelt area as stipulated in the earlier EC, or if the existing ratio of greenbelt is more than 33%, after expansion it should not reduce below 33%.	There is no reduction in Greenbelt Area.
vii	The project proponent should have satisfactorily complied the conditions stipulated in the existing EC(s) and satisfactorily fulfilled all the commitments made during the earlier public hearing/consultation proceedings and also the commitments given while granting previous expansion, as may be applicable. This shall be duly recorded in the certified compliance report issued by the IRO/CPCB/SPCB, which should not be more than one year old at the time of submission of application.	The PP has submitted the approved certified compliance report vide letter dated 08.03.2023 by IRO, MOEF&CC.
viii	Public Consultation shall be undertaken [if applicable as per table below] by obtaining response in writing, as per para 7 III (ii) (b) of EIA Notification 2006, except those category of projects which have been exempted as per para 7 III (i) of EIA Notification 2006 and its amendments.	Public Consultation shall be undertaken after directives in this regard are issued, by obtaining response in writing as per Para 7 III (ii) (b) of EIA Notification 2006.
ix	Effluent monitoring including air quality monitoring systems as specified in the existing EC, if stipulated, should have been installed.	The PP has submitted the CTO vide letter dated 15.08.2022 for 2.5 MTPA of coal capacity. The CTO was valid till 31.03.2023.

(x) The PP has submitted the following status of other statutory requirements like:

S. No.	Condition as per OM	Compliance of condition
i.	Consent to Establish/ Operate	The PP has submitted the CTO vide letter dated 15.08.2022 for 2.5 MTPA of coal capacity. The CTO was valid till 31.03.2023.
ii.	Clearance from CGWA	The PP has obtained the permission for the intersection of Ground water from Central Ground Water Authority valid from 25.08.2022 to 24.08.2024.
iii.	Approval of Mining Plan	The PP has submitted the approved Mining Plan (Including Progressive Mine Closure Plan) for mine lease area of 1457.20 ha by MOC on 24/08/2011.

iv.	Mine Closure Plan	The PP has submitted the approved Mining Plan (Including Progressive Mine Closure Plan) for mine lease area of 1457.20 ha by MOC on 24/08/2011.
v.	Mine Closure Status Report	Nil
vi.	Approval of DGMS	Nil
vii.	Forest Clearance	The PP has obtained the approval for the diversion of 84.41 ha of forest land for non-forestry purposes vide letter No. 8-52/2011-FC dated 22/12/2021.
viii.	Wildlife Clearance	Nil

42.2.4 *The EAC after detailed deliberations observed that the instant proposal has been applied under Ministry's OM dated 11th April, 2022 for expansion in capacity upto 50% with exemption in public hearing under clause 7 (ii) of EIA, Notification, 2006.*

Earlier, Ministry had issued the EC and Transfer of EC vide letter dated 18.05.2006 (under 1994 EIA Notification) and 06.07.2015 (under EIA 2006 Notification) respectively to this project. EAC in the instant case noted that the project proponent does not comply all the criteria mentioned in the OM dated 11.04.2022. The Committee also noted that the Project proponent does not have latest Mining plan and Valid Consent to Operate. The project proponent also lacks in complying few conditions of EC such as Establishment of environmental laboratory at project site, Commissioning of ETP, which is still under construction phase and Installation of CAAQMS. Also, project proponent did not submit the approval letter from PCCF. The committee asked the project proponent to submit the expenditure plan for the protection and conservation for Schedule-I species. Committee noted that the Mine does not have latest mining plan. Committee also asked the project proponent to submit approved past production detail.

As per the Kml file, Committee found that the Ordinance factory shares the same boundary with the Mine lease area. Due to the ordinance factory located near to the mining lease area, the committee advised to take permission from the Ordinance factory. The project proponent during the presentation stated that 200 ha of mine lease area has been declared as non-mining zone, the committee therefore advised to surrender the part of mining lease area declared as Non-mining zone. This will lead to the revision of mining plan including the incorporation of latest mining method and all safety norms during the mining process.

In view of the above, the project proponent shall submit the following details: -

- i. PP to install the ETP and CAAQMS in the mining lease area with action plan of its operation.*

- ii. *PP to work with the approved Mining plan and Mine Closure Plan as per latest guidelines of Ministry of Coal (issued in 2019 or 2020) including the incorporation of latest mining method and safety norms.*
- iii. *PP to update the Mine Plan restricting mining and Overburden dump with a distance of 3 km all along the boundaries of Ordinance Factory.*
- iv. *PP shall submit the copy of valid Consent to Operate on the present operating capacity.*
- v. *PP shall submit the status of establishment of environmental laboratory at project site and details of its Environment Management Cell with their qualification. Further, signed copy Corporate Environment Policy approved by its Board of Directors.*
- vi. *PP shall submit the approval of wildlife conservation plan from PCCF, along with the expenditure plan to be spent or already spent for the conservation of wildlife.*
- vii. *PP needs to submit the past production detail from the inception of the mine.*
- viii. *PP needs to submit the permission from the Ordinance factory for extraction of coal being joining the boundaries.*
- ix. *PP needs to submit the detail action taken report of EC and its amendment vide dated 18.05.2006 and 06.07.2015.*
- x. *The PP shall submit the status of expenditure incurred from the budget of Public Hearing to IRO, MoEF&CC with its six monthly compliance report.*
- xi. *PP needs to submit the clarification by SPCB upon projects falls under SPA/CPA.*
- xii. *PP shall submit the status of plantation with photographs alongwith action plan.*
- xiii. *The PP shall submit the status of expenditure incurred from the budget of EMP to IRO, MoEF&CC with its six monthly compliance report.*

*In view of above, the project was **deferred** for submission of observation.*

Agenda No. 42.3

Expansion of Manikpur opencast coal mining project for increase in production capacity from 4.9 MTPA to 5.25 MTPA (increase of 10% w.r.t 3.5 MTPA) in land area of 1018.93 Ha by M/s South Eastern Coalfields Ltd. located in the village Korba, Tehsil Korba, District Korba (Chattisgarh) - Reconsideration of Environmental Clearance under OM vide F. No. IA 3-22/10/2022-IA.III dated 07.05.2022 [Availing total 50% relaxation of OM dealing with exemption of public hearing under clause 7 (ii) of EIA notification]

[Online Proposal No. IA/CG/CMIN/420728/2023; File No. J-11015/1129/2007-IA.II (M)]

42.3.1 The proposal is for appraisal of Environmental Clearance issued under OM dated 07.05.2022 which has availed 50% relaxation for Manikpur opencast coal mining project with increase in production capacity from 4.9 MTPA to 5.25 MTPA (increase of 10% w.r.t 3.5 MTPA) in mining lease area of 1018.93 Ha by M/s South Eastern Coalfields Ltd located in the village Korba, Tehsil Korba, District Korba (Chattisgarh).

42.3.2 Details of the proposal, as ascertained from the proposal documents and as revealed from the

discussions held during the meeting, are given as under:

- (i) The project area is covered under Survey of India Topo Sheet No 64 J/11 and is bounded by the geographical coordinates ranging from 22°19'00" to 22°19'30" North latitudes and 82°42'30" to 82°44'30" East longitudes.
- (ii) Coal linkage of the project is proposed for coal use for various thermal power plants and other coal consumers including steel plants, cement plants, etc.
- (iii) Joint venture cartel has been formed: not a joint venture.
- (iv) 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.
- (v) Employment generation: 377 no. of departmental manpower and 748 no. of contractual manpower employed in the project as on 30.03.2023.
- (vi) The project is reported to be beneficial in terms of fulfillment of national coal demand, generation of direct and indirect employment, socio-economic welfare measures under CSR, contribution to the Govt. exchequer.
- (vii) The environment clearance already granted to the project under EIA Notification, 2006 vide Ministry's letter No J-11015/129/2007-IA.II(M) dated 26.05.2022 for 5.25 MTPA in mine lease area of 1018.925 ha (case of re-consideration of EC).
- (viii) Terms of Reference granted on (for EC proposals): None; EIA/EMP has been prepared based on standard ToRs for opencast coal mining projects.
- (ix) Total mining lease area as per block allotment is 1018.925 ha. Mining Plan (Including Progressive Mine Closure Plan) has been approved by the SECL Board on 04.09.2015.
- (x) The land usage pattern of the project is as follows:

Land-use: Pre-mining

S. No.	Land Use	Within ML Area (ha)	Outside ML Area (ha)	Total (ha)
1.	Agricultural Land	531.856		531.856
2.	Forest land	375.899		375.899
3.	Waste land	111.170		111.170
4.	Grazing land	-	-	-
5.	Surface Water Bodies	4.280 (included in forest land)	-	4.280 (included in forest land)
6.	Settlements	-	-	-
7.	Other (Specify)	-	-	-
	Total	1018.925	-	1018.925

Land-use: during mining:

S. No.	Pattern of utilization	Area (ha)
1.	Quarry area	321.35
2.	Backfilled area	189.585
3.	Area for top soil	10.0
4.	External dump	187.7
5.	Infrastructure	9.14

6.	Roads	8.01
7.	Residential colony	18.04
8.	R&R site	
9.	Nala Diversion, if any	12.45
10.	Safety Zone	12.75
11.	Other undisturbed area	249.9
Total area (ha)		1018.925

Land-use: during mining:

S. No.	Land use during Mining	Land Use (Ha)				
		Plantation	Water Body	Public Use	Undisturbed	Total
1.	External OB Dump	187.70	-	-	-	187.70
2.	Internal Dump/Backfilled area	189.585	-	-	-	189.585
3.	Excavation	-	321.350	-	-	321.350
4.	Roads	-	-	1.090	-	1.090
5.	Built up areas	-	-	88.510	-	88.510
6.	Green belt	5.0	-	-	-	5.0
7.	Undisturbed area including safety zone	-	-	-	225.690	225.690
	Total	382.285	321.350	89.60	225.690	1018.925

- (xi) Total geological reserve reported in the mine lease area is 101.5 MT with 56.62 MT mineable reserve as on 01.04.2022. Out of total mineable reserve of 56.62 MT, 56.62 MT are available for extraction. Percent of extraction is 100 %.
- (xii) 3 nos. seams (XVIII, XIX, XX) with thickness ranging from 4.44 m to 32.7 m are workable. Grade of coal is G-13, stripping ratio 3.01 cum/tonne while gradient is 9 to 27 degrees.
- (xiii) Method of mining operations envisaged: opencast mining with shovel-dumper combination.
- (xiv) Life of mine is 11 years as on 01.04.2022 @5.25 MTPA.
- (xv) The project has 2 nos. external OB dumps in an area of 187.7 ha with 60 m and 90 m height and 187.7 Mm³ of OB and 3 nos, internal OB in an area of 189.585 ha with 60 m and 90 m height 169.10 Mm³ of OB is envisaged in the project.
- (xvi) Total quarry area is 321.35 ha out of which backfilling will be done in nil ha while final mine void will be created in an area of 321.35 ha with a depth of 40 m. Backfilled quarry area of nil ha shall be reclaimed with plantation. Final mine void of 321.35 ha will be converted into water body with 40 m depth.
- (xvii) Transportation of coal has been proposed by tippers (present)/ conveyor belts (proposed) in mine

pit head, from surface to siding by tippers and at sidings by tarpaulin covered trucks.

- (xviii) Reclamation Plan in an area of 395.035 ha, comprising of 187.7 ha of external dump, 189.585 ha of internal dump and 5.0 ha of green belt. In addition to this, an area of 12.75 ha, included in the safety zone/rationalization area, has also been proposed for green belt development.
- (xix) 375.899 ha of forest land has been reported to be involved in the project. Approval under the Forest (Conservation) Act, 1980 for diversion of forest land for non-forestry purposes has been obtained such as:

Area (Ha)	Stage -1 FC issued vide letter no. & date	Validity period of earlier FC granted
194.728	F. No. 8-9/20006-FC-Pt(Vol-I) dated 31.12.2009	20 years
181.177	F. No. 8-9/2006-FC dated 14.06.2006	20 years

- (xx) Please mention any National Parks, Wildlife Sanctuaries and Eco-Sensitive Zones fall within 10 km boundary of the project: No such area within 10 km boundary of the project.
- (xxi) Wildlife conservation plan for schedule – I species has been submitted to the State Forest Deptt.
- (xxii) The ground water level has been reported to be varying between 4.2 m to 8.55 m during pre-monsoon and between 1.7 m to 3.10 m during post-monsoon. Total water requirement for the project is 4521 KLD.
- (xxiii) Groundwater NOC has been obtained vide NOC no. CGWA/NOC/MIN/ORIG/ 2020/8120. Application for obtaining ground-water NOC renewal is under consideration with CGWA.
- (xxiv) Public hearing for the project of 3.5 MTPA capacity in an area of 1018.925 ha was conducted on 27.08.2009 at Tehsil Office, Korba under the Chairmanship of District Collector, Korba. Major issues raised in the public hearing include employment, reclamation, nala diversion, road, electricity, among others. Appropriate action to address the issues raised in the Public Hearing have already been taken.
- (xxv) Consent to Operate for the existing capacity (5.25 MTPA) was obtained from the State PCB no. 5969/TS/CECB/2022 dtd. 28.11.2022 and is valid till 30.11.2023.
- (xxvi) Kachandi nalla is flowing along boundary of lease. The nallah will not be diverted in consultation with the Water Resource Department of the State Government (except already diverted previously).
- (xxvii) Regular monitoring of ambient air quality is being carried out on fortnightly basis. The documented report is submitted to the CECB and also to MoEF&CC along with half yearly EC compliance report. In general, the results of ambient air quality monitoring data were found within prescribed limits except few aberrations which can be attributed to the specific local conditions during the day of sampling.
- (xxviii) No court cases, violation cases are pending against the project of the PP.
- (xxix) The project does not involve violation of the EIA Notification, 2006 and amendment issued thereunder. The coal production from the mine at 3.5 MTPA was started from the year 2014 onwards. No excess production of coal from the sanctioned capacity has been realized since then. The coal production, realized from the project, from the year 2014-15 is as follows:

Year	EC sanctioned capacity (MTPA)	Actual production (MTPA)	Excess production beyond the EC sanctioned capacity
2014-15	3.5	3.5	Nil
2015-16	3.5	3.5	Nil
2016-17	3.5	3.5	Nil
2017-18	4.9	4.9	Nil
2018-19	4.9	4.9	Nil
2019-20	4.9	4.9	Nil
2020-21	4.9	4.9	Nil
2021-22	4.9	4.9	Nil
2022-23	5.25	5.25	Nil

(xxx) 115 PAPs have been previously provided employment in the mine in lieu of land acquisition. No families/homesteads have been shifted. No R&R is involved in capacity expansion from 4.90 MTPA to 5.25 MTPA.

(xxxi) Total cost of the project: Rs 321.50 Crore original capital cost with additional capital cost of Rs 137.85 Crore

(xxxii) Cost of production: Rs. 938.14 per tonne (FY 22-23 progressive upto Feb'23) Sale Price: Rs. 954.37 per tonne (FY 22-23 progressive upto Feb'23) CSR cost: As per CIL CSR policy, the fund for the CSR is allocated based on 2% of the average net profit of the Company for the three immediately preceding financial years or Rs. 2.00 per tonne of coal production of previous year, whichever is higher. R&R cost: Nil; R&R is not involved. Environment Management Cost: Rs. 3588.4 lakh capital, Rs. 1425.109 lakh recurring (revenue nature).

(xxxiii) Consent to establish/Consent to Operate (CTO) for 5.25 MTPA was obtained from the State Pollution Control Board vide certificate no. 5969/TS/CECB/2022 dtd. 28.11.2022 and is valid till 30.11.2023.

(xxxiv) Base line monitoring status:

- Mention the Period/ Season of baseline study carried out: **01.10.2022-31.12.2022**
- Whether the Laboratory has been accredited by the NABL/ MoEF&CC certification involved in analysis of water, air, noise & soil quality data, also providing its respective lab reports: **Yes, NABL accredited.**
- Detail of Air quality and surface water quality
- Air quality: Number of sampling location monitored: **9 nos.**
- The result indicates that the maximum and minimum values of PM10 are in the range of

Pollutant	Core Zone ($\mu\text{g}/\text{m}^3$)		Buffer Zone		
	Max. Conc ($\mu\text{g}/\text{m}^3$)	Min Conc. ($\mu\text{g}/\text{m}^3$)	Max. Conc ($\mu\text{g}/\text{m}^3$)	Conc	Min Conc. ($\mu\text{g}/\text{m}^3$)
PM 10	170.1	140.9	83.8		46.2
PM 2.5	103.1	73.1	48.6		21.5
SO2	39.7	28.9	27.5		6.5

NOX	33.6	19.5	22.1	4.3
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a. The incremental increase in the values were projected to be:

Pollutant	Incremental increase ($\mu\text{g}/\text{m}^3$)	
	Core Zone	Buffer Zone
PM 10	6.55	6.83
PM 2.5	1.12	1.24
SO ₂	0.00	0.00
NOX	0.47	0.25

b. The values of Total GLC were projected to be:

Pollutant	Total GLC ($\mu\text{g}/\text{m}^3$)	
	Core Zone	Buffer Zone
PM 10	176.65	90.63
PM 2.5	104.22	49.84
SO ₂	39.70	27.50
NOX	34.07	22.35

The observed pollutant levels were compared with CPCB National Ambient AirQuality Standards and found to be within prescribed limits.

42.3.3 The committee during the EAC meeting noted the following:

- i. The PP has obtained the following ECs :
 - a. EC for production capacity of 3.5 MTPA in the Mine lease area of 1018.93 ha vide dated 22.08.2014 with Public hearing.
 - b. EC for expansion under clause 7(ii) of EIA Notification, 2006 for 4.9 MTPA vide dated 18.12.2018.
 - c. EC for 5.25 MTPA under clause 7 (ii) of EIA notification, 2006 (OM dated 07.05.2022) vide dated 26.05.2022.
- ii. Approved Mining Plan (Including Progressive Mine Closure Plan) by the SECL Board for mine lease area of 1018.925 ha vides dated 04.09.2015.
- iii. The PP has obtained the forest clearance for 375.899 ha of forest land has under Forest (Conservation) Act, 1980 for diversion of forest land for non-forestry purposes such as:

Area (Ha)	Stage -I FC issued vide letter no. & date	Validity period of earlier FC granted
194.728	F. No. 8-9/20006-FC-Pt(Vol-I) dated 31.12.2009	20 years
181.177	F. No. 8-9/2006-FC dated 14.06.2006	21 years

- iv. PP submitted that no National Parks, Wildlife Sanctuaries and Eco-Sensitive Zones fall within 10 km boundary of the project.
- v. PP submitted the wildlife conservation plan for schedule I to the State Forest Department.
- vi. PP has obtained the NOC for withdrawal of Groundwater vide letter no. CGWA/NOC/MIN/ORIG/2020/8120 valid from 01.06.2020 to 31.05.2022. The application for

renewal of NOC for ground-water is under consideration with CGWA.

- vii. PP has conducted the Public hearing on 27.08.2009 for the capacity of 3.5 MTPA in the Mine lease area of 1018.925 ha.
- viii. PP has obtained the Consent to Operate for the capacity of 5.25 MTPA vide State PCB no. 5969/TS/CECB/2022 dated 28.11.2022 and valid till 30.11.2023.
- ix. PP has submitted that Kachandi nalla is flowing along boundary of mine lease area, and no nallah will be diverted.
- x. PP has collected the baseline data conducted between 01.10.2022 to 31.12.2022.

42.3.4 *The EAC, after deliberations observed that instant project has been submitted in compliance of Ministry's OM dated 7th May, 2022 wherein expansion in capacity was granted in advance (10% beyond 40% from the existing capacity) subject certain conditions related to submission of EIA-EMP report and compliances of existing EC conditions within six months alongwith other statutory requirements. This EC was granted on 26th May, 2022 by MoEF&CC due to shortage of coal in the country and as per the condition contained therein. The committee noted that proposal was submitted by delay of more than two months beyond the prescribed time limit of six months*

Earlier, Ministry had issued the EC and Expansion of EC vide Ministry's letter dated 22.08.2014, 18.12.2018 and 26.05.2022. The PP has submitted the baseline data for period from October to December, 2022. The committee noted that the project proponent has complied EC conditions and submitted the report vide letter dated 03.02.2023. The Committee advised to the project proponent to complete the mechanised system installation works before September, 2023 accordingly the SPCB shall grant CTO. The committee appreciated the dumping work going on to fill the mine void by fly ash as per the SoP of CPCB. The Committee also advised to the project proponent for installation of automatic online monitoring system to measure the Ground water level and quality of water, further project proponent shall submit report to the IRO, MoEF&CC within 3 months. Subsequently the committee also asked the project proponent to submit the wildlife utilisation certificate to regional office of Ministry.

*In view of the above, EAC after detailed deliberation **recommended** and revalidated the condition required for Environmental Clearance dated 07.05.2022 issued under OM dated 07.05.2022 for 50% relaxation availed for Manikpur opencast coal mining project with increase in production capacity from 4.9 MTPA to 5.25 MTPA (increase of 10% w.r.t 3.5 MTPA) in mining lease area of 1018.93 Ha by M/s South Eastern Coalfields Ltd located in the village Korba, Tehsil Korba, District Korba (Chattisgarh), under the provisions of EIA Notification, 2006 and its amendments therein with specific conditions for environmental safeguards mentioned below:*

Specific conditions:

- i. *PP shall complete the mechanized system including inpit belt conveyor system and Silo by September, 2023 and no road transportation shall be allowed by SPCB beyond this timeline and accordingly, SPCB shall grant the CTO to PP.*

- ii. *PP shall install in-pit crusher and belt conveyor system at coal face for direct transportation of coal through conveyor belt from coal face to stock yard/CHP.*
- iii. *The PP shall provide water sprinkling system for dust suppression in the coal crusher at CHP.*
- iv. *PP shall obtain No Objection Certificate from Central Ground Water Authority and submit it to Ministry's Regional Office. PP shall submit the compliance of the DGMS guidelines to IRO, MOEF&CC upon the occupational safety and other measures that the project proponent is following within the mine lease area.*
- v. *PP shall submit the report upon the status of the training session already conducted in order to provide livelihood and skill development to near-by villagers to make them employable.*
- vi. *PP shall install dust suppression system equipped with minimum 3 nos. of 9KL fixed sprinklers along with contractual mobile water tankers along mine roads.*
- vii. *PP shall leave 100 mts width along with Kachandi Nallah and develop plantation all along this 100 mts.*
- viii. *PP shall install fixed sprinklers at CHP and railway siding for dust control.*
- ix. *PP shall complete the dense plantation along mine roads, on OB dumps and non-dump areas with local species particularly of Sal tree/species. PP shall develop 5 ha of Sal nursery in the project area and use its for plantation and distribute freely to the nearby areas.*
- x. *PP shall make the pucca roads within the mine lease area and same should be maintained time to time.*
- xi. *PP needs to submit the compliance of SoP issued by CPCB for dumping of mine void by fly ash.*
- xii. *PP needs to submit the physical and financial target for the implementation of the action plan for conservation and protection of endangered flora and fauna.*
- xiii. *PP needs to submit the detail report upon the steps already taken or to be taken towards medical health check-ups for Mine workers.*
- xiv. *The PP shall install one CAAQMS in the core zone of mine lease area and the data to display on the website as well as on the main entry gate of the organization*
- xv. *PP shall submit the ATR based on the corrective actions that have been taken for installed ETP and PP should ensure the continuous smooth operation of ETP.*
- xvi. *The PP shall use covered trucks with tarpaulin having the capacity of 40 tonne and above for the transportation of Coal till mechanized system is completed i.e. September, 2023.*
- xvii. *PP to shall complete the tree plantation particularly fruit bearing tree along the village road within six months from date of issue of EC to IRO, MoEF&CC. The plantation shall also be planted along the Mine boundary and Mine pit. A detailed report with GIS images of every six months subsequently be submitted in every six monthly report to justify the adequate tree plantation.*
- xviii. *The project proponent shall include development of solar parks, eco-friendly-parks, fish-farming pond, picnic spot and sports compound in its Mine Closure Report. Further if possible, maximum possible area of quarry shall be brought upto original ground level and handover the land to Project affected Families.*
- xix. *Proper garland drain and retaining wall should be made (if required) and same should be revived from time to time.*

- xx. *The PP shall not use the ground water for any type of mine closure activity. PP shall maintain one permanent Piezometer for monitoring of ground water level.*
- xxi. *No village road shall be used as well as no road transport route shall be adopted, which is passing through any sensitive location such as schools, hospitals etc.*
- xxii. *The project proponent shall install effective dust suppression system at the suitable location in the other parts of the mining lease to arrest the fugitive dust emission.*
- xxiii. *The project proponent shall arrange Periodical health check-up camp and in long term PP shall arrange permanent health facility near village area.*
- xxiv. *Hon'ble Supreme Court in an Writ Petition(s) Civil No. 114/2014, Common Cause vs Union of India & Ors vide its judgement dated 8th January, 2020 directed the Union of India to impose a condition in the mining lease and a similar condition in the environmental clearance and the mining plan to the effect that the mining lease holders shall, after ceasing mining operations, undertake re-grassing the mining area and any other area which may have been disturbed due to their mining activities and restore the land to a condition which is fit for growth of fodder, flora, fauna etc. Compliance of this condition after the mining activity is over at the cost of the mining lease holders/Project Proponent". The implementation report of the above said condition shall be sent to the Regional Office of the MoEF&CC.*
- xxv. *All the other terms and condition of earlier EC dated 22.08.2014, 18.12.2018 and 26.05.2022 shall remain same.*

Agenda No. 42.4

Expansion of Amrapali Opencast Mine from 14.4 MTPA to 20.16 MTPA (Peak) in an ML area of 619.87 ha of M/s Central Coalfields Limited located in District Chatra (Jharkhand) – Amendment in Environmental Clearance letter dated 10.05.2021 - reg.

[Online proposal No. IA/JH/CMIN/298399/2023; File No. J-11015/109/2003-IA.II(M)]

42.4.1 The proposal is for amendment in Environmental Clearance letter dated 10.05.2021 for Amrapali Opencast project from 14.4 MTPA to 20.16 MTPA (Peak) in ML area of 619.87 ha of M/s Central Coalfields Limited located in District Chatra (Jharkhand).

PP has requested for amendment in the EC condition stipulated in EC letter dated 10.05.2021 particularly for the specific condition no. 3 (xv) such as: *“PP should ensure that coal transportation from Amrapali Railway Siding through belt conveyor (within two years) from the grant of EC”*

42.4.2 The EAC, during deliberations noted the following:

- The PP has obtained the following Environment Clearance such as:
 - a. The EC vide Ministry's letter No: J-11015/109/2003-IA.II (M) dated 03.01.2006 with the production capacity of 12 MTPA in mine lease area of 1426.08 Ha.
 - b. The EC dated 03.01.2006 was revalidated on 28.02.2020 for capacity of 12 MTPA in the revised mine lease area of 619.87 Ha.

- c. The project was granted environmental clearance for a capacity of 14.4 MTPA within the project area of 619.87 Ha vide letter no: J-11015/109/2003-IA.II (M) under clause 7(ii) of EIA-2006. Subsequently, MoEF&CC accorded EC of 20.16 MTPA in an area of 619.87 Ha on 20.05.2021.
- The project proponent requested for amendment in the EC condition stipulated in EC letter dated 10.05.2021 particularly for the specific condition no. 3 (xv) such as: “PP should ensure that coal transportation from Amrapali Railway Siding through belt conveyor (within two years) from the grant of EC”
 - The Project proponent has submitted justification for the above said amendment that Land required for railway siding is 160.10 Ha, out of which 120.61 Ha forest land. The FC proposal is with Govt. of Jharkhand for Stage-I. The work of construction was awarded to M/s RITES Ltd in 2017. However, since forest part is awaiting clearance, construction work could progress only in Non-Forest and Railway land. As of now, the physical progress against the on-going contract is 20%. Since the above FC proposal is in advance stage, it is expected that, construction of Railway Siding & Silo in Forest land may start from July-2023 after getting Temporary Working Permission (TWP). The proposed CHP part of CHP-Silo-Siding is falling within the 431.59 Ha FC proposal of Amrapali OCP. the proposal is also with State Govt. for compliance of query raised by MoEF&CC and it is expected that Stage-I FC will be issued by July-2023.
 - As such, due to non-issuance of above Forest Clearances, the construction of CHP-Silo-Siding including associated conveyor belts has been delayed and is not expected to be completed within the stipulated period of two years since grant of last EC (i.e. by 09.05.2023).
 - Accordingly, this proposal is being submitted for the purpose of amendment in existing Environment Clearance of Amrapali Opencast Coal Mine Project seeking additional time of two years for construction of CHP-Silo-Siding, and continuation of road transportation of coal to existing siding (~ 5 KM) during the construction period.

42.4.4 *The EAC, after deliberation observed that the project proponent has requested for amendment of EC condition to grant further 2 years to transport the coal by roadways since works of Railway Siding through belt conveyor (within two years) are still underway due to delay in implementation. Earlier, As per EC condition no. 4(A) (iii), PP was to construct the railway siding, conveyor and silo loading system within 2 year (i.e by May 2023). Alternatively, the proponent desired to continue the coal transportation by tarpaulin covered trucks through road. PP informed that there is forest land, which required to be diverted before start of construction of railway siding and silos and the proposal has submitted to State Government which is likely to be granted by July, 2023.*

The Committee expressed displeasure for non-implementation of the said condition, which is important to reduce the dust pollution. The Committee found that work has been completed in certain patches and observed delay has been due to tendering process. PP also submitted the work awarded to M/s Rites in the year 2017 and initial work has been completed but due to non-availability of land, the work could not accomplished. In same time the committee advised PP to put sincere efforts in getting FC for the purpose as this is pending long and complete the tendering

process of left over works. PP proposes expenditure on air pollution control measures to amount of Rs. 4083.59 lakhs of budget excluding Rs. 100 lakhs for regular environment monitoring.

While endorsing the arguments of dela, the committee asked the project proponent to the increase truck size up to 45 tonnes till mechanized system put in place. The Committee allowed the project proponent for transportation of coal from Coal Mine to Shivpur railway siding (5 kms) by tarpaulin covered trucks through dedicated motorable road. The coal should not be transported through any village, Hospital and School. The project proponent shall take 'pollution control certificate' for all mine vehicle and suggested to implement the vehicle with BSVI technology in place of BSIV. The committee has agreed to extend the time for implementation of mechanized transportation through belt conveyor and based upon the submission of undertaking by Director (T/P&P) vide dated 06.04.2023 committee agreed to extend it upto 18 month from the date of issue of EC.

Based on the above discussion, EAC **recommended** the proposal for amendment of EC dated 10.05.2021 particularly for the specific condition no. 3 (xv) which will be read as “PP should ensure that coal transportation from Amrapali Railway Siding through belt conveyor within 18 months i.e upto January 2025 from May 2023 ” of Amrapali Opencast Mine from 14.4 MTPA to 20.16 MTPA (Peak) in an ML area of 619.87 ha of M/s Central Coalfields Limited located in District Chatra (Jharkhand) under the provisions of EIA Notifications, 2006 and its amendments therein, subject to following additional condition for environmental safeguards;

- (i) PP should ensure that coal transportation from Amrapali Railway Siding through belt conveyor and silo loading system (within 18 months) i.e upto January 2025 from May 2023. SPCB shall grant Consent to operate accordingly, ensuring compliance of this condition.
- (ii) PP shall comply with all existing air pollution control measures shared during EAC meeting, which proposes Rs. 4083.59 lakhs of budget excluding Rs. 100 lakhs for regular environment monitoring within six months.
- (iii) PP shall increase the fleet size from 35 ton trucks to 45-50 ton truck in order to reduce the air pollution due to transportation. The coal transportation route should not pass through forest area, village road. SPCB to issue CTO on this condition.
- (iv) PP shall take 'pollution control certificate' for all mine vehicles and suggested to implement the vehicle with BS-VI technology in place of BS-IV.
- (v) PP shall obtain certified compliance report of previous EC from Ministry's IRO within six months from the date of issue of this letter.
- (vi) The PP shall submit the action taken report based upon the non-compliances observed to IRO, MOEF&CC.
- (vii) PP shall deploy movable fog cannon systems, permanent water sprinklers and mechanized road sweepers in the transportation route.
- (viii) PP must obtain 4.5-star rating of MoC in the year 2024-25 and report shall be submitted to IRO.

Agenda No. 42.5

Himgir Coal Washery project for (5 MTPA) in an area of 13.52 ha. of M/s ACB (India) Limited located in Tehsil Himgir, District Sundargarh, (Odisha) - Amendment in Environmental Clearance dated 22.06.2009 – reg.

[Online proposal No. IA/OR/CMIN/298151/2023; File No. J-11015/925/2007-IA.II (M)]

42.5.1 The proposal is for amendment in Environmental Clearance letter dated 22.06.2009 for Himgir Coal Washery project for (5 MTPA) in an area of 13.52 ha. of M/s ACB (India) Limited located in Tehsil Himgir, District Sundargarh, (Odisha). One of the conditions of EC is mentioned as below:

Specific Condition No.(ii) “The Proponent shall establish a Closed Conveyor System within 3 (three) years for transportation of Washed Coal between the Washery and the Railway Siding at Himgir and prior Forestry Clearance shall be Obtained under the Provisions of the FC Act,1980”

42.5.2 The EAC during deliberations noted the following:

- (i) Environment Clearance to the project was obtained under EIA Notification, 2006 vide Ministry’s letter No. J-11015/925/2007-IA.II (M) dated 22nd June, 2009 for 5.0 MTPA in project area of 13.57 ha to M/s Aryan Coal Beneficiation Pvt. Ltd. Subsequently EC was transferred to M/s ACB India Limited vide letter no. J-11015/925/2007-IA.II (M) dated 23/04/2019.
- (ii) Further, due to non-compliance of EC conditions, Ministry issued closure Notice on dtd. 7th June, 2021 and Closure Notice issued on 20th July 2021 from OSPCB, Govt. Of Odisha.
- (iii) PP obtained the amendment in EC from Ministry along with revocation of closure notice. Also, while granting amendment, the production capacity was reduced to 2.5 MTPA for a period of 2 years vide its letter dated 22nd February, 2022. Based on the revocation, Odisha State Pollution Control Board revoked the closure notice on 3rd March, 2022
- (iv) Forest clearance for 2.699 ha involved in project area for non-forestry activity has been obtained vide MoEF&CC letter No. 5-ORB171/2013-BHU dated 28 June, 2016.
- (v) Consent to Operate vide letter no. 3829/IND-I-CON-6640 dated 29/03/2018 valid up to 31/03/2023

- Now, project proponent has requested amendment in the EC letter dated 22.02.2022 particularly for the specific condition no. (iii) “Project proponent to install belt conveyor system to transport washed coal within 2 years from the date of issue of this letter” and specific condition no. (i) “SPCB shall grant Consent to Operate of 2.5 MTPA Production Capacity for the aforesaid project”.
- PP is now requesting to amend the said conditions and proposed for followings :
Specific condition no. (iii): "Project proponent can transport Washed Coal from Washery to Kanika Railway Siding by road with covered trucks instead of belt conveyor system."

Specific condition no. (i): "SPCB shall grant Consent to Operate of 5.0 MTPA Production Capacity for the aforesaid project."

- The Project proponent has submitted the following reasons for the amendment of specific condition no. (iii) Such as:
 - The Road (Belpahar - Sundergarh PWD Road) passing in front of our washery is a four lane RCC Road used mainly for transportation of Coal of other coal mines in the vicinity including MCL.
 - The length of road to be used from our Washery to Railway siding on the same route is only 2.5 Kms.
 - Maximum daily Load on the said road is 52,800 as per IRC -73:1980 guidelines. Existing daily traffic load is 3015. Thus, additional traffic load of 256 numbers of 45 T capacity Truck due to transportation of our Washed Coal on the said road will not pose any significant load to the existing traffic.
 - We are regularly spraying water by Truck Mounted Canon Spray on the same road. So no significant additional load or the ground fugitive emission will be caused by our transportation. Few Photographs enclosed.

Past Production details comparison with existing EC

Year	EC sanctioned Capacity (MTPA)	Actual production (MTPA)	Excess production beyond the EC sanctioned capacity
2009 - 2010	5	Nil	Under construction
2010 - 2011	5	Nil	Under construction
2011 - 2012	5	0.003501	Nil
2012 - 2013	5	0.08020384	Nil
2013 - 2014	5	0.24635305	Nil
2014 - 2015	5	1.19170109	Nil
2015 - 2016	5	0.09945564	Nil
2016 - 2017	5	0.02002022	Nil
2017 - 2018	5	0.01212218	Nil
2018 - 2019	5	1.38383288	Nil
2019 - 2020	5	0.37757878	Nil
2020 - 2021	5	0.02791849	Nil
2021 - 2022	5	Nil	Nil
2022-2023 (Upto 24/02/2023)	2.5	0.661768	Nil

42.5.4 The EAC, after detailed deliberation observed that the project proponent has requested for EC amendment condition and also intends to get relaxation in the amendment condition i.e "installation of belt conveyor system to transport washed coal within 2 years from the date of issue of EC letter" and "SPCB shall grant Consent to Operate of 2.5 MTPA Production Capacity for the

aforesaid project.” The Committee noted that no steps have so far been taken by PP to implement the said condition.

During presentation, PP tried to give clarification with their ease in road transportation as distance is about 2.5 km till railway siding. PP was emphasizing on mitigation measures being taken to contain the dust pollution due to transportation. It was also submitted that production capacity against sanctioned EC value has not been achieved in past due to non-requirement of washed coal. Recently PP has received order of washed coal of requisite capacity, however since the Ministry has reduced the sanctioned capacity, it is difficult to fulfil the order of power company.

In absence of any substantive data and attempt of PP in implementing the condition, the Committee opined that the project proponent may work out a study by having comparative analysis of capital investments and Operational cost required in mechanized pipe conveyor system verses expenditure involved in road transportation in light of environmental implication (in terms of pollution load) in both the cases including traffic impact assessment due to road transportation. Since the production capacity achieved so far is less than sanctioned EC capacity of 5 MTPA as noted from production level and even working below to reduced capacity of 2.5 MTPA, project proponent shall have to submit valid reason for this amendment. The committee noted that the project proponent has no valid consent to operate.

In view of the above, the project proponent shall submit the following details: -

- i. The PP shall submit the comparative analysis of capital investments required in mechanized system vs. expenditure involved in road transportation in light of environmental implication (in terms of pollution load) in both the cases.*
- ii. PP shall submit the valid justification with documents for this instant amendment proposal.*
- iii. PP shall study the traffic impact assessment with one month base line ambient air quality from certified NABET Category A consultant.*
- iv. The PP shall submit the Consent to Operate of 2.5 MTPA Production Capacity from SPCB.*

*In view of above, the project was **deferred** for submission of observation.*

Annexure-I

Standard EC Conditions for Coal Mining Project (Opencast 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:

(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 be 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 statute be established in the core zone as well as in the buffer zone for monitoring of pollutants, namely PM₁₀, PM_{2.5}, SO₂ and NO_x. Location of the stations shall be decided based on the meteorological 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 airborne 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- 20012/1/2006-1A.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 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) 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 purpose. 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 5km. 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.
- (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 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.
- (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 shall be 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 shall 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 stabilised 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 all along 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 & its 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 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'.

(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 approved 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.
- (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 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.
- (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, NO_x(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 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'.
- (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, from time 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 be 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 NO_x. 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. to be carried out at least once in six months. 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

- 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 by the 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 runoff
- 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 riverian/ riparian ecosystem in and around the coal mine upto a distance of 5 km. A riverian /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 equipments (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 be conducted.

- 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 Mines Act 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 (MoEFCC).
- 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 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).
- 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 greenbelt 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 Hearings 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&R Policy/ 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 approved 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. 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 seven days 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 environmentclearanceportal.
- 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. Therecommendations of the approved Site-Specific Conservation Plan / WildlifeManagement Plan shall be implemented in consultation with the State Forest Department. The implementation report shall be furnished along with the six-monthly compliance report. (incase of the presence of schedule-I species in thestudy 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 CentralGround Water Authority.
- (vi) Solid waste/hazardous waste generated in the washery needs to addressed inaccordance 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 NO_x. Location of the stations shall be decided based onthe 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 statuebe established in the core zone as well as in the buffer zone for monitoring ofpollutants, namely PM₁₀, PM_{2.5}, SO₂ and NO_x. 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 stationsmay also be installed in addition to the regular monitoring stations as per therequirement 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 railwith 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 be appropriately 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-20012/1/2006-1A.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 stabilised 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 off 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 MoEFCC 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 on six-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 mwidth shall be developed all along the washery area to check fugitive dust emissions and to render aesthetic to neighbouring 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/transferpoints 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.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'.

VIII. 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 approved 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. 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.

IX. 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 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 environmental 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, NO_x (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 MOEF&CC 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 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 (MoEFCC) 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
- 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 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.
- xvii. 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. Preference should be given to the site located at pit head; in case such a site is not available, the site should be as close to the pit head as possible and coal should be transported from mine to the washer preferably through closed conveyor belt to avoid air pollution.
- ii. The washery shall not be located in eco-sensitive zones areas.
- iii. The washery should have a closed system and zero discharge. The storm drainage should be treated in settling ponds before discharging into rivers/streams/water bodies.
- iv. A thick Green belt of about 50 m width should be developed surrounding the washery.
- v. A brief description of the plant along with a layout, the specific technology used and the source of coal should be provided.
- vi. The EIA-EMP Report should cover the impacts and management plan for the project of the capacity for which EC is sought and the impacts of specific activities, including the technology used and coal used, on the environment of the area (within 10km radius), and the environmental quality of air, water, land, biotic community, etc. through collection of data and information, generation of data on impacts for the rated capacity. Cumulative impacts for air and water should be a part of EIA in case coal mine, TPP and other washeries are located within 10km radius. The EIA should also include mitigative measures needed to minimize adverse environmental impacts.
- vii. A Study Area Map of the core zone as well as the 10km area of buffer zone showing major industries/mines and other polluting sources should be submitted. These maps shall also indicate the migratory corridors of fauna, if any and areas of endangered fauna; plants of medicinal and economic importance; any ecologically sensitive areas within the 10 km buffer zone; the shortest distance from the National Park/WL Sanctuary Tiger Reserve, etc. 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 EIA/EMP report.

- xii. Details of various facilities proposed to be provided in terms of parking, rest areas, canteen etc. to the personnel involved in mineral transportation, workshop and effluents/pollution load from these activities should be provided.
- xiii. Impacts of CHP, if any, on air and water quality should also be spelt out along with Action Plan.
- xiv. O.M.no.J-II0I3/25/2014-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. Therejects 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 conveyer belt. If it is far away, the transportation should be by rail as far as possible.
- xviii. Copies of MOU/Agreement with linkages (for stand-alone washery) for the capacity for which EC is being sought should be submitted.
- xix. Corporate Environment Responsibility:
 - a) The Company must have a well laid down Environment Policy approved by the Board of Directors.
 - b) The Environment Policy must prescribe for standard operating process/procedures to bring into focus any infringements/deviation/violation of the environmental or forest norms/conditions.
 - c) The hierarchical system or Administrative Order of the company to deal with environmental issues and for ensuring compliance with the environmental clearance conditions must be furnished.
 - d) To have proper checks and balances, the company should have a well laid down system of reporting of non-compliances/violations of environmental norms to the Board of Directors of the company and/or shareholders or stakeholders at large.
- xx. A detailed action Plan for Corporate Social Responsibility for the project affected people and people living in and around the project area should be provided.

- xxi. Permission of drawl of water shall be pre-requisite for consideration of EC.
- xxii. Wastewater /effluent should confirm to the effluent standards as prescribed under Environment (Protection) Act, 1986
- xxiii. Details of washed coal, middling and rejects along with the MoU with the end-users should be submitted.

GENERIC TOR FOR AN OPENCAST COALMINE PROJECT for EC

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

LAND USE DETAILS FOR OPENCAST PROJECT should be given as per the following table:

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, SO_x, NO_x and heavy metals such as Hg, Pb, Cr, As, etc), noise, water (surface and groundwater), soil - along with one-season met data coinciding with the same season for AAQ collection period 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 through the ML and adjoining the lease/project and the impact on the existing users and impacts of mining operations thereon.
- (xx) Detailed water balance should be provided. The break-up of water requirement for the various mine operations should be given separately.
- (xxi) Source of water for use in mine, sanction of the Competent Authority in the State Govt. and impacts vis-à-vis the competing users 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 28° angle as the ultimate slope should be given. Sections of final dumps (both longitudinal and cross section) with relation to the adjacent area should be shown.
- (xxviii) Efforts be made for maximizing progressive internal dumping of O.B., sequential mining, external dump on coal bearing area and later rehandling into the mine void. --to reduce land degradation.
- (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 (1 st Year)	5 th Year	10 th Year	20 th Year	24 th Year (end of mine life)*
1.	Backfilled Area Reclaimed with plantation)					
2.	Excavated Area (not reclaimed)/void					
3.	External OB dump Reclaimed with plantation)					
4.	Reclaimed Top soil dump					
5.	Green Built Area					
6.	Undisturbed area(brought under plantation)					
7.	Roads (avenue plantation)					
8.	Area around buildings and Infrastructure					
	TOTAL					

* 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.	1 st year					
2.	3 rd year					
3.	5 th year					
4.	10 th year					
5.	15 th year					
6.	20 th year					
7.	25 th year					
8.	30 th year					
9.	34 th year (end of mine life)					
10.	34-37 th Year (Post-mining)					

* As a representative example

(xxxix) Conceptual Final Mine Closure Plan and post mining land use and restoration of land/habitat to the pre- mining status should be provided. A Plan for the ecological restoration of the mined out area and post mining land use should be prepared with detailed cost provisions. Impact and management of wastes and issues of re-handling (wherever applicable) and backfilling and progressive mine closure and reclamation should be furnished.

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

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

(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 Env. Management Plan with measures for minimizing use of natural resources - water, land, energy, etc. should be carried out.

(xxxvi) Cost of EMP (capital and recurring) should be included in the project cost and for progressive and final mine closure plan.

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

people, civic and housing amenities being offered, etc and costs along with the schedule of the implementation of the R&R Plan 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:

- 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 the action proposed with budgets in suitable time frame. These details should be presented in a tabular form. If the Public Hearing is in the regional language, an authenticated English Translation of the same should be provided.
- (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.
- (xlili) 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 FORESTLAND AND (ha)	Date of FC	Extent of forestland	Balance area for which FC is yet to be obtained	Status of appl for. diversion of forest land

		If more than, provide details of each FC			
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ANNEXURE -VI

GENERIC TORs FOR AN UNDERGROUND COALMINEPROJECT

- (i) An EIA-EMP Report shall be prepared for MTPA rated capacity in an ML/project area of 100 ha based on the generic structure specified in Appendix III of the EIA Notification, 2006.
- (ii) An EIA-EMP Report would be prepared for MTPA rated capacity to cover the impacts and environment management plan for the project specific activities on the environment of the region, and the environmental quality encompassing air, water, land, biotic community, etc. through collection of data and information, generation of data on impacts including prediction modeling for MTPA of coal production based on approved project/Mining Plan for MTPA. Baseline data collection can be for any season (three months) except monsoon.
- (iii) A Study area map of the core zone (project area) and 10 km area of the buffer zone (1:50,000 scale) clearly delineating the major topographical features such as the land use, surface drainage pattern including rivers/streams/nullahs/canals, locations of human habitations, major constructions including railways, roads, pipelines, major industries/mines and other polluting sources. In case of ecologically sensitive areas such as Biosphere Reserves/National Parks/WL Sanctuaries/ Elephant Reserves, forests (Reserved/Protected), migratory corridors of fauna, and areas where endangered fauna and plants of medicinal and economic importance found in the 15 km study area should be given.
- (iv) Map showing the core zone delineating the agricultural land (irrigated and un-irrigated, uncultivable land as defined in the revenue records, forest areas (as per records), along with other physical features such as water bodies, etc should be furnished.
- (v) A contour map showing the area drainage of the core zone and 25 km of the study area (where the water courses of the core zone ultimately join the major rivers/streams outside the lease/project area) should also be clearly indicated in the separate map.
- (vi) A detailed Site plan of the mine showing the proposed break-up of the land for mining operations such as the quarry area, OB dumps, green belt, safety zone, buildings,

infrastructure, CHP, ETP, Stockyard, township/colony (within and adjacent to the ML), undisturbed area -if any, and landscape features such as existing roads, drains/natural water bodies to be left undisturbed along with any natural drainage adjoining the lease /project areas, and modification of thereof in terms of construction of embankments/bunds, proposed diversion/re-channelling of the water courses, etc., approach roads, major haul roads, etc should be indicated.

- (vii) Original land use (agricultural land/forestland/grazing land/wasteland/waterbodies) of the area should be provided as per the tables given below. Impacts of project, if any on the land use, in particular, agricultural land/forestland/grazing land/water bodies falling within the lease/project and acquired for mining operations should be analyzed. Extent of area under surface rights and under mining rights should be specified.

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

Area under Surface Rights

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

- (viii) Study on the existing flora and fauna in the study area (10km) should be carried out by an institution of relevant discipline. The list of flora and fauna duly authenticated separately for the core and study area and a statement clearly specifying whether the study area forms a part of the migratory corridor of any endangered fauna should be given. If the study area has endangered flora and fauna, or if the area is occasionally visited or used as a habitat by Schedule-I species, or if the project falls within 15 km of an ecologically sensitive area, or used as a migratory corridor then a Comprehensive Conservation Plan along with the appropriate budgetary provision should be prepared and submitted with EIA-EMP Report; and comments/observation from the CWLW of the State Govt. should also be obtained and furnished.
- (ix) Details of mineral reserves, geological status of the study area and the seams to be worked, ultimate working depth and progressive stage-wise working scheme until the end of mine life should be provided on the basis of the approved rated capacity and calendar plans of production from the approved Mining Plan. Geological maps and

sections should be included. The Progressive mine development and Conceptual Final Mine Closure Plan should also be shown in figures. Details of mine plan and mine closure plan approval of Competent Authority should be furnished for green field and expansion projects.

- (x) Details of mining methods, technology, equipment to be used, etc., rationale for selection of specified technology and equipment proposed to be used vis-à-vis the potential impacts should be provided.
- (xi) Impact of mining on hydrology, modification of natural drainage, diversion and channeling of the existing rivers/water courses flowing through the ML and adjoining the lease/project and the impact on the existing users and impacts of mining operations thereon.
- (xii) One-season (other than monsoon) primary baseline data on environmental quality - air (PM₁₀, PM_{2.5}, SO_x, NO_x and heavy metals such as Hg, Pb, Cr, As, etc), noise, water (surface and groundwater), soil - along with one-season met data coinciding with the same season for AAQ collection period should be provided.
- (xiii) Map (1: 50, 000 scale) of the study area (core and buffer zone) showing the location of various sampling stations superimposed with location of habitats, other industries/mines, polluting sources, should be provided. The number and location of the sampling stations in both core and buffer zones should be selected on the basis of size of lease/project area, the proposed impacts in the downwind (air)/downstream (surface water)/groundwater regime (based on flow). One station should be in the upwind/upstream/non-impact/non-polluting area as a control station. The monitoring should be as per CPCB guidelines and parameters for water testing for both ground water and surface water as per ISI standards and CPCB classification wherever applicable. Observed values should be provided along with the specified standards.
- (xiv) Impact of mining and water abstraction from the mine on the hydrogeology and groundwater regime within the core zone and 10 km buffer zone including long-term monitoring measures should be provided. Details of rainwater harvesting and measures for recharge of groundwater should be reflected in case there is a declining trend of groundwater availability and/or if the area falls within dark/grey zone.
- (xv) Study on subsidence including modeling for prediction, mitigation/prevention of subsidence, continuous monitoring measures, and safety issues should be carried out.
- (xvi) Detailed water balance should be provided. The 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.
- (xvii) Impact of choice of mining method, technology, selected use of machinery and impact on air quality, mineral transportation, coal handling & storage/stockyard, etc, Impact of blasting, noise and vibrations should be provided.

- (xviii) Impacts of mineral transportation within the mining area and outside the lease/project along with flow-chart indicating the specific areas generating fugitive emissions should be provided. Impacts of transportation, handling, transfer of mineral and waste on air quality, generation of effluents from workshop etc, management plan for maintenance of HEMM and other machinery/equipment should be given. Details of various facilities such as rest areas and canteen for workers and effluents/pollution load emanating from these activities should also be provided.
- (xix) Effort be made to reduce/eliminate road transport of coal inside and outside mine and for mechanized loading of coal through CHP/ Silo into wagons and trucks/tippers.
- (xx) Details of various facilities to be provided to the workers in terms of parking, rest areas and canteen, and effluents/pollution load resulting from these activities should also be given.
- (xxi) The number and efficiency of mobile/static water sprinkling system along the main mineral transportation road inside the mine, approach roads to the mine/stockyard/siding, and also the frequency of their use in impacting air quality should be provided.
- (xxii) Impacts of CHP, if any on air and water quality should be given. A flow chart showing water balance along with the details of zero discharge should be provided.
- (xxiii) Conceptual Final Mine Closure Plan and post mining land use and restoration of land/habitat to the pre- mining status should be provided. A Plan for the ecological restoration of the mined out area and post mining land use should be prepared with detailed cost provisions. Impact and management of wastes and issues of re-handling (wherever applicable) and backfilling and progressive mine closure and reclamation should be furnished.
- (xxiv) Greenbelt development should be undertaken particularly around the transport route and CHP. Baseline data on the health of the population in the impact zone and measures for occupational health and safety of the personnel and manpower for the mine should be submitted.
- (xxv) Cost of EMP (capital and recurring) should be included in the project cost and for progressive and final mine closure plan.
- (xxvi) Details of R&R. Detailed project specific R&R Plan with data on the existing socio-economic status of the population (including tribals, SC/ST, BPL families) found in the study area and broad plan for resettlement of the displaced population, site for the resettlement colony, alternate livelihood concerns/employment for the displaced people, civic and housing amenities being offered, etc and costs along with the schedule of the implementation of the R&R Plan should be given.
- (xxvii) CSR Plan along with details of villages and specific budgetary provisions (capital and recurring) for specific activities over the life of the project should be given.
- (xxviii) Corporate Environment Responsibility:
 - a) The Company must have a well laid down Environment Policy approved by the Board

- of Directors.
- b) The Environment Policy must prescribe for standard operating process/procedures to bring into focus any infringements/deviation/violation of the environmental or forest norms/conditions.
 - c) The hierarchical system or Administrative Order of the company to deal with environmental issues and for ensuring compliance with the environmental clearance conditions must be furnished.
 - d) To have proper checks and balances, the company should have a well laid down system of reporting of non-compliances/violations of environmental norms to the Board of Directors of the company and/or shareholders or stakeholders at large.
- (xxix) Details on Public Hearing should cover the information relating to notices issued in the newspaper, proceedings/minutes of Public Hearing, the points raised by the general public and commitments made by the proponent and the action proposed with budgets in suitable time frame. These details should be presented in a tabular form. If the Public Hearing is in the regional language, an authenticated English Translation of the same should be provided.
- (xxx) In built mechanism of self-monitoring of compliance of environmental regulations should be indicated.
- (xxxi) Status of any litigations/ court cases filed/pending on the project should be provided.
- (xxxii) Submission of sample test analysis of Characteristics of coal: This should include details on grade of coal and other characteristics such as ash content, S and heavy metals including levels of Hg, As, Pb, Cr etc.
- (xxxiii) Copy of clearances/approvals such as Forestry clearances, Mining Plan Approval, mine closer plan approval. NOC from Flood and Irrigation Dept. (if req.), etc. wherever applicable.

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

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

ANNEXURE-VII

**GENERIC TORs FOR AN OPENCAST -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.
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**LIST OF PARTICIPANTS OF EAC (COAL) IN 42nd MEETING HELD DURING 5
APRIL, 2023 THROUGH VIDEO CONFERENCING**

1.	Shri G.P Kundargi			1- DAY
		-	Chairman	P
2.	Dr. N. P. Shukla	-	Member	P
3.	Shri Suramya Dolarray Vora, IFS (Retd)	-	Member	P
4.	Dr. Umesh Jagannathrao Kahalekar	-	Member	P
5.	Shri K.B. Biswas	-	Member	P
6.	Dr. Nandini.N	-	Member	A
7.	Dr. Unmesh Patnaik	-	Member	A
8.	Professor S S Rai, Representative of IIT/ISM Dhanbad	-	Member	P
9.	Shri M.P Singh, Representative of CEA	-	Member	P
10.	Dr. Santosh Kumar Hampannavar	-	Member	P
11.	Prof R.K. Giri Representative of IMD	-	Member	A
12.	Dr. Nazimuddin Representative of Central Pollution Control Board	-	Member	P
13.	Shri Lalit Bokolia, Director, MoEFCC	-	Member Secretary	P