

MINUTES OF 18th MEETING OF THE EXPERT APPRAISAL COMMITTEE FOR ENVIRONMENT APPRAISAL OF COAL MINING PROJECTS HELD ON 2nd SEPTEMBER, 2021 THROUGH VIDEO CONFERENCE.

Thursday, 02nd September, 2021

Confirmation of the Minutes of 17th Meeting of the EAC (Coal) held on 09 -10 August, 2021: The minutes of the 17th meeting of the EAC held during 09th -10th August, 2021 was 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 18th meeting of the Expert Appraisal Committee (EAC) for coal mining projects was held on 2nd September, 2021 through video conferencing with support NIC team due to Covid-19 lockdown. 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. 18.1

Expansion of Mohanpur OCP (Phase –II) coal mine from 1.0 MTPA to 2.5 MTPA with increase in Project area from 164.91 Ha to 415.71 Ha of M/s Eastern Coalfields Ltd located in Village Lalganj, District Paschim Bardhaman (West Bengal) -For Environmental Clearance-reg

[Online Proposal No IA/WB/CMIN/10820/2007; File No. J-11015/1128/2007/IA-II (M)]

18.1.1 The proposal is for Environment Clearance Expansion of Mohanpur OCP (Phase –II) coal mine from 1.0 MTPA to 2.5 MTPA with increase in Project area from 164.91 Ha to 415.71 Ha of M/s Eastern coalfields Ltd located in Village Lalganj, District Paschim Bardhaman (West Bengal).

18.1.2 The 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 73 I/13 and is bounded by the geographical coordinates ranging from latitude from 23°46'45.42" N to 23°48'02.74" N and longitudes 86°55'44.02" E to 86°57'14.32" E.

(ii) Coal linkage of the project Coal produced from the mine is supplied to

- Wardha Power Company Limited ((WPCL), Maharashtra,

- Aravali Power Company Private Limited, Haryana,
- National Capital Power Station (NCPS) or NTPC Dadri, Gautam Budh Nagar, Uttar Pradesh,
- Kanti Thermal Power Station in Kanti, Muzaffarpur, Bihar.

(iii) No Joint venture cartel has been formed.

(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) Present manpower of the mine is 275 and employment to 315 persons will be provided from the project.

(vi) The project is reported to be beneficial in terms of economic growth of local population, employment generation both direct and indirect and community development under CSR.

(vii) Earlier, the environment clearance to Mohanpur OCP was obtained under EIA Notification, 2006 vide Ministry's letter No J-11015/1128/2007-IA.II (M) dated 10.12.2009 for 1.00 MTPA in mine lease area of 164.91 Ha.

(viii) Terms of Reference granted vide Ministry's letter No.23-235/ 2018-IA.III(V) dated 26th November, 2018 based on Ministry's notification dated 14th March, 2017.

(ix) Total mining lease area of the project as per block allotment is 164.91 Ha. Mining Plan including Mine Closure Plan approved on 11.11.2020.

(x) The land usage pattern of the project is as follows: Present land use details (Area in Ha)

Sl. No.	Type of Land Use	Within ML area (Ha)	Area (Ha)
1	Agricultural/Fallow Land	152.00	152.00
2	Forest Land	0.00	0.00
3	Wasteland/Danga	30.00	30.00
4	Grazing Land	0.00	0.00
5	Surface Water bodies (River/Nallah/Pond)	11.00	11.00
6	Settlements (Village/Basti)	3.00	3.00
7	Others		
	Plantation/Natural Vegetation	131.00	131.00
	Mining Area (Excavation and OB Dump)	88.71	88.71
Total		415.71	415.71

Post-mining land use details (Area in Ha):

S.N.	Land use during Mining	Land Use (Ha)				
		Plantation	Water Body	Public Use	Undisturbed	TOTAL
1	External OB Dump	164.06				164.06
2	Top soil Dump	9.0				9.0
3	Excavation	93.15	111.0			204.15

S.N.	Land use during Mining	Land Use (Ha)				
		Plantation	Water Body	Public Use	Undisturbed	TOTAL
4	Roads					0.0
5	Built up area (including Settlement)			6.50		6.50
6	Green Belt	6.0				6.0
7	Undisturbed Area (Plantation)	26.0				26.0
	TOTAL	298.21	111.0	6.50		415.71

- (xi) Total geological reserve is 44.2 MT in the mine with 23.10 MT mineable reserve. Out of total mineable reserve of 23.10 MT are available for extraction. Percent of extraction is 100%
- (xii) 09 Seams with thickness ranging from 1.00 m –11.00 m are workable. Grade of coal is G7, stripping ratio 3.73 m³/te, while dip of the seam is 12-15 °.
- (xiii) Method of mining operations envisages by opencast method
- (xiv) Life of the instant mine (Mohanpur OCP) is 12 years.
- (xv) The project has one external OB dumps in an area of 173.06 ha with 30m height and 14.80 Mm³ of OB and one internal OB in an area of 93.15 Ha with 50 Mm³ of OB is envisaged in the project.
- (xvi) Total quarry area is 204.15 Ha out of which backfilling will be done in 93.15 Ha while final mine void will be created in an area of 111 Ha with a depth of 20 m. Backfilled quarry area of 93.15 Ha shall be reclaimed with plantation. Final mine void will be converted into water body.
- (xvii) Transportation of coal has been proposed as follows:
- In Pit: Coal will be loaded by shovels at face and transported to the surface coal depot (crusher/CHP) by colliery dumpers
 - Surface to siding: Crushed Coal will be transported to Bonjemehari Railway Siding by a dedicated coal transport route of 9.0 km. It is proposed to commission and operate Itapara Railway Siding within the vicinity of the mine and coal from CHP will be transported using conveyor belts from 5th year onwards.
 - Siding to Loading: Coal will be loaded to rail wagons using pay loaders.
- (xviii) Reclamation Plan in an area of 298.21 Ha. This includes:
- Existing Plantation/Natural Vegetation – 131.0 Ha
 - External OB dump of 173.06 Ha
 - Internal OB dump of 93.15 Ha
 - Development of Green belt 26 Ha
- (xix) No forest land has been reported to be involved in the project.

- (xx) No National Parks, Wildlife Sanctuaries and Eco-Sensitive Zones fall within 10 km boundary of the project.
- (xxi) The ground water level has been reported to be varying between 5.85 m to 8.30 m BGL during pre-monsoon and between 1.85 m to 3.08 m BGL during post-monsoon. Total water requirement for the project is 1080 m³/day (Domestic Water Requirement – 400 m³/day and Industrial Water Requirement – 680 m³/day).
- (xxii) Application for NoC for Ground Water Abstraction was made to State Water Investigation Department, Govt. of West Bengal on 02.11.2018. SWID officials conducted an inspection for the mines of ECL on 07.12.2020. Additional reports were sought by SWID on 21.12.2020 which was submitted by ECL on 01.02.2021. Currently the proposal for grant of Groundwater Clearance for the mines of ECL is under Process at SWID.
- (xxiii) Public hearing for the project for expanded capacity of 2.50 MTPA in an area of 415.71 Ha was conducted on 11.11.2020 at Agent Office, Mohanpur OCP, District- Paschim Bardhaman, West Bengal under the Chairmanship of Additional District Magistrate (Education and Environment) Paschim Bardhaman, West Bengal. Major issues raised in the public hearing include pollution hazards due to blasting, dust pollution due to movement of coal loaded dumpers, monitoring of development activities under CSR etc. Appropriate actions to address the issues raised in the Public Hearing have already been taken.
- (xxiv) The mine has a valid Consent to Operate.
- (xxv) Nunia nallah is flowing from west to east and is located north side of the boundary of lease. The nallah will be diverted in consultation with the Water Resource Department of the State Government. Application for obtaining permission for the diversion has been made.
- (xxvi) Consent to Operate for the existing capacity was obtained from the State PCB No.17072998391, date: 03.01.2018 and is valid till 37.12.2022. No River/nalla is flowing in boundary of lease.
- (xxvii) Regular monitoring of ambient air quality is being carried out on fortnightly basis. The documented report is submitted to WBPCB 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 on few occasions 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 except land related.
- (xxix) The project does involve violation of the EIA Notification, 2006 and amendment issued thereunder. The coal production from the mine was started from 2008-2009 onwards. Production details of coal vis-à-vis the sanctioned capacity has been given in xxix.
- (xxx) The project involves 235 project affected families. Out of which 160 Project affected families have already been rehabilitated and 75 Project affected families will be rehabilitated. No rehabilitation site has been proposed as per the advice of mine authority. The PAFs will be rehabilitated with monetary compensation.
- (xxxi) Total cost of the project is ₹ 951.99 Crores. Cost of production is ₹ 1657.94 per ton, CSR cost is

2% of average profit of the previous three years. Environment Management Cost is ₹ 23.62 Crores.

(xxxii) Consent to operate (CTO) was obtained from the State Pollution Control Board on 27.06.2018 and is valid till 31.07.2023.

(xxxiii) Past Production details comparison with existing EC.

Name of the Project	EC sanctioned capacity (MTPA)	Year	Actual production (MTPA)	Excess Production beyond the EC sanctioned capacity
Mohanpur OCP	1.00	2008-09	0.39	Nil
	1.00	2009-10	0.66	Nil
	1.00	2010-11	0.98	Nil
	1.00	2011-12	1.39	0.39
	1.00	2012-13	1.07	0.07
	1.00	2013-14	0.84	Nil
	1.00	2014-15	0.30	Nil
	1.00	2015-16	0.81	Nil
	1.00	2016-17	0.99	Nil
	1.00	2017-18	0.99	Nil
	1.00	2018-19	0.79	Nil
	1.00	2019-20	0.99	Nil
1.00	2020-21	1.00	Nil	

xxx. A Remediation Plan along with a Natural & Community Resource Augmentation Plan (NCRAP) has been prepared for Rs 659.35 Lakh to be spent over a period of 3 years.

18.1.3 The EAC during deliberations noted the followings:

- (i) The proposal is for Environment Clearance to Expansion of Mohanpur Opencast Coal Mine from 1.00 MTPA to 2.50 MTPA with additional area from 164.91 Ha to 415.71 ha of M/s Eastern Coalfields Ltd. located in Salanpur Area, Barabani and Salanpur CD Block, Asansol (West Bengal).
- (ii) Earlier, the environment clearance to Mohanpur OCP was obtained under EIA Notification, 2006 vide Ministry's letter No J-11015/1128/2007-IA.II(M) dated 10.12.2009 for 1.00 MTPA in mine lease area of 164.91 Ha.
- (iii) Terms of Reference granted vide Ministry's letter No.23-257/ 2018-A-(III) dated 27th September, 2019 based on Ministry's notification dated 14th March, 2017. Due to overproduction in project during the years from 2015-16 to 2019 -20 (excess production of 2.3 MTPA) beyond EC limits (2.5 MTPA), the project was confirmed to be under violation.

- (iv) The baseline data has been generated for three months i.e. from 16th October 2019 to 16th January 2020 covering one season (i.e. Post monsoon Season). Ground Level Concentration (GLC) values for PM10, PM2.5, SOx and NOx as carried out in the prediction made by AERMOD software for peak production to assess the impact of mining.
- Air quality: Number of sampling location monitored: 06
The result indicates that the maximum and minimum values of PM10 are in the range of 85.9 to 66.2 µg/m³, whereas the PM2.5 are in the range of 43.1 to 25.3 µg/m³. The SO₂ concentrations within the study area are in the range of 10.2 to 7.5 µg/m³ and the NO_x are in the range of 28.7 to 15.3 µg/m³. The incremental increase in the values were projected to be 24.50 µg/m³ for PM10, 1.02 µg/m³ for PM2.5, 4.90 µg/m³ for SO₂, and 41.88 µg/m³ for NO_x. The highest predicted value of total GLC is 167.38 µg/m³ for PM10, 37.00 µg/m³ for PM2.5, 15.63 µg/m³ for SO₂, and 63.51 µg/m³ for NO_x. The observed pollutant levels were compared with GSR 742(E) dated 25 Sept, 2000 Standards and found to be within the prescribed limits
 - Surface water quality: Number of sampling location monitored: 04 The result indicates that the maximum and minimum values of DO ranges between 8.87 to 6.6, hardness ranged between 548 to 150 mg/l.
- (v) Project Report for Mohanpur Expansion OCP (Phase – II) for a production capacity of 2.50 MTPA in a project area of 415.71 Ha has been prepared and approved by the Board of Directors, ECL on 07.12.2018 and the same was approved by Board of Directors, CIL in 414th Board Meeting held on 11.11.2020.
- (vi) The major issues raised during public hearing conducted on 11.11.2020 were of non-compliance of the commitment done by PP during previous public hearing held on 2008. Blasting issues, inadequate water supply to the nearby villages, dust pollution due to mining activities. Unmaintained plantation in OB dumps
- (vii) No forest land is involved in the project for diversion of non-forestry activity.
- (viii) Maithon dam which falls in Jharkhand and West Bengal is at an aerial distance of around 5.50 km from the project boundary

18.1.4 *The EAC, after detailed deliberation observed the proposal is for Environment Clearance applied for violation category under Ministry's Notification dated 14th March, 2017. Accordingly, EIA-EMP has been prepared for expansion as well as reported violation in years from 2011 to 12 and 2012-13 (excess production of 0.39 MTPA) and 0.7 MTPA respectively beyond EC limits (1.0 MTPA). PP informed that due to sudden increase in the power demand was the reason for overproduction.*

Further, EAC reviewed the certified compliance report of Ministry's IRO dated 20th January, 2021 (obtained after grant of ToR) and found that there were various non-compliances and partial compliances of EC conditions. Some of important condition like adequate plantation has not been implemented along the roads, No STP construction in the colony though two treatment plants are being proposed, installation of CAAQMS, non-implementation of proper measure for control of air

pollution at crushing site. In response, PP however, submitted that CAAQMS and STP has been installed after RO compliance report. EAC emphasized to submit the CTO of STP and data of newly established CAAQMS. Gross non-compliances of transportation of coal by road instead of stipulated conditions of Rail transportation has been observed. PP informed that road transportation till railway siding i.e. 9 km distance is being used for road transportation. The EAC had asked the PP to comply all the non-compliance in time bound action plan, particularly to address the issues of villagers from Pahargora village who had a complaint about the noncompliance of previous public hearing held during 2008.

It was observed that there is lack of commitment of PP in supplying drinking water to nearby villages though it has been raised in Public Hearing. Also issues such water contamination, damage to water supply resources like ponds, tanks and river bodies, unmaintained plantation in OB dumps as tress were felling from it, dust pollution, damage due to blasting, damage to agriculture, plantation and fisheries i.e. complete damage to the livelihood were the major issue raised in public consultation and accordingly firm commitment were desired by EAC. EAC asked PP to justify the need of diversion of Nunnia Nallah proposed in the EIA report, PP explained that they need that area for OB dumping, EAC objected that they can use any other area instead of diverting the Nunnia Nallah as it will also impact the water recharging of nearby ponds situated within ½ km as there is a linkage between them. EAC asked for survey about the cracks observed in the houses of nearby villages as also verified by municipal chairman. It was informed that drilling and blasting is being conducted as per the DGMS rules. EAC desired PP to make committee for actual survey and status report and conduct vibration study for one month. EAC also suggested them to provide proper skill development training programmes instead of workshops

One of ToR conditions regarding credible action by State Government on project proponent is pending and action by SPCB has to be taken on PP. Also, PP had used the provision of CER which now no longer exists and EAC asked to correct it as CSR and provide a budgetary provision along the EMP. PP presented the Damage assessment report and its remedial action plan for the violation committed by PP and it was asked to show the back calculation done by the PP. The PP had discussed the back calculation with the expert during the meeting. EAC found that three first order Nallas were diverted by PP so they enquired about the catchment area, flow rate, total quantity on annual basis along with water recharge and degraded land restoration plan. EAC also asked the status of Road construction and found that PP was using a separate route of 9 km for the transportation of the coal without consent of the panchayat for the stretch required by the villagers and advised to provide pucca raods to them with proper budgetary implementation in time bound action of 2 years. The EAC also found that all the activities proposed by the PP as ToR or EC conditions or issue raised in public hearing should be in time bound action plan.

In view of above observation, EAC desired compliance from PP on following observations:

(i) PP shall revise damage assessment and its remedial action plan for violation of over production as suggested by EAC based on following points:

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- *Assessment due to air impact shall be revisited and submitted.*
- *The damage due to mine water abstraction shall be reworked for 2011/12 and 12/13 taking total into consideration in the absence of NOC and according to CGWA rates.*
- *Non provision /deficiency of surface water structures shall be considered and gap in provision of GB/plantation.*
- *Net profit accrual and 3% of the same shall be considered under CRAP.*
- *The activities under Remediation, NRAP, CRAP shall be of capital expenditure, measurable and specific the needs of neighborhood and completed in 3 years' time.*
- *List of activities proposed as per om dated 30/09/20 as per the requirements in PH amounting to 442 lacs shall be submitted to be completed in three years, under EMP.*

(ii) PP shall provide monetary provisions for Wildlife Conservation Plan for Schedule-I species and breakup of the proposed activities submitted to the DFO.

(iii) The proper location of the OB dumps along with its Longitude and Latitude to be provided by the PP with its proper restoration plan.

(iv) PP shall submit plan of action for installation of one STP and CTO of other constructed STP by March 2022.

(v) PP shall submit a video recording of the site from drone in next meeting

(vi) PP shall update mine closure activity already conducted and to be pursued for final mine closure

(vii) Plan of action and allocated fund for maintenance and services to the installed RO for 10 years and to provide pipeline with fittings to the nearby villages.

(viii) The details of diversion of one of streams existed in the ML prior to commencement of mining shall be submitted, considering the catchment, flow adequacy, etc.

(ix) PP shall submit fresh certified compliance report of EC dated 18th May, 2009 from Ministry's IRO

(x) PP shall submit NOC for Ground water extraction for 2.5 MTPA and also of previous ECs

(xi) PP shall recheck and re-monitor the water quality of surface water i.e. ponds, tanks and streams vicinity of the project area by other consultant (third party).

(xii) Action plan for commitment made on the issues raised during public hearing with time line and fund allocated.

(xiii) PP shall submit the consent letter from the panchayat for the stretch required by the villagers on actual need base survey and to provide pucca road to them with proper budgetary implementation and time bound action of 2 years was to be followed

(xiv) PP shall leave the Nunnia nallah in its natural course for 5 years until the completion of diverted channel and the diversion will only be commenced after the permission is granted by the respective authority and not on the basis of application filed. Accordingly Mine plan shall be revised to adjust the OB dump

(xv) The grant of EC will be considered after the initiation of credible action as an implementation of 78 Minutes of 18th EAC (Coal Mining Sector) held on 2nd September, 2021

mandatory procedural process

(xvi) The total excavation including OB/IB/SB and top soil besides ROM coal shall be referred for EC.

(xvii) Water balance for monsoon period also shall be submitted.

(xviii) Details of water consumption by present and proposed colony, variation in Water balance, justification for 25% water loss in STP, 40% loss in ETP shall be submitted.

(xix) Brief details of application for NOC from State water authority and measures proposed for treatment and GW charging systems shall be submitted apart from the status of NOC.

(xx) Details of GB/Plantation in the safety zone and other areas shall be submitted.

(xxi) The mitigation/control measures presently adopted for the Nallah passing through and also abetting Dump Toe shall be briefed.

(xxii) Action plan for traffic decongestion in MDR where the LOS appears to be in C/D level as per IRC norms. (69.62% occupied as per EIA)

(xxiii) PP shall examine the area occupied or proposed for external dump by increasing the height by obtaining necessary approval so that the area saved can be utilised for plantations.

(xxiv) PP shall submit past production since 1994/or from the start of mining activity. Production figures shall be vetted from State Geological Department or with Consent to Operate.

(xxv) PP to make committee of experts in their company for actual survey and status report regarding issues of blasting and damages to house and conduct vibration study for one month (during night also) near the boundary of project.

(xxvi) Compliance of all the non-compliance and partial compliance highlighted by Ministry;s IRO shall be submitted with action plan to complete within 2 years.

(xxvii) Clarity regarding mine lease area/project area and mining lease/Letter of Intent with visible total area shall be submitted.

(xxviii) Status of Court Case pending against the project in High Court with its latest order.

*The proposal was **deferred** on above lines.*

Agenda No. 18.2

Cluster of Godavarikhani No. 1&3 (GDK 1&3) incline and Godavarikhani Khani coal mine (No. 2 & 2a and No. 5) opencast underground with a production capacity of 4.134 MTPA (Peak-5.134 MTPA) (OC: 3.00 /Peak: 4.00) MTPA and UG: 1.134 MTPA in the Mine lease area of 1927.13 ha of M/s The Singareni Collieries Company Limited, Ramagundam-I area near Janagaon & Vithalnagar Villages, Ramagundam Mandal, District Peddapalli (Telagana) - For Environmental Clearance – reg.

18.2.1 The proposal is for grant of Environment Clearance to Cluster of Godavarikhani No. 1&3 (GDK 1&3) incline and Godavarikhani Khani coal mine (No. 2 & 2a and No. 5) opencast underground with a production capacity of 4.134 MTPA (Peak-5.134 MTPA) (OC: 3.00 /Peak: 4.00) MTPA and UG: 1.134 MTPA in the Mine lease area of 1927.13 ha of M/s The Singareni Collieries Company Limited, Ramagundam-I area near Janagaon & Vithalnagar Villages, Ramagundam Mandal, District Peddapalli (Telagana).

18.2.2 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. 56N/9 & 56N/10 and is bounded by the geographical coordinates ranging from Latitudes 18° 43' 21" to 18° 46' 53" N and longitudes 79° 30' 25" to 79° 35' 46" E.
- (ii) Coal linkage of the project is proposed for producing power in Super Thermal Power Station of NTPC, Ramagundam, Peddapalli District, Telangana State.
- (iii) No joint venture has been formed.
- (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.
- (v) Employment generation of 350 Permanent and 550 Contractual will be done for the opencast operation in the proposed project. Existing man power in UG mines is 2230.
- (vi) The project is reported to be beneficial in terms of socio-economic and improving living standards.
- (vii) Earlier, the environment clearance to the project was obtained under EIA Notification 2006 vide Ministry's letter No 23-78/2018-IA-III(V) dated 13.11.2020 for 1.734 MTPA in mine lease area of 1356.85 ha.
- (viii) Terms of Reference granted on 14.01.2021 and ToR amendment was granted on 17.03.2021.
- (ix) Total mining lease area as per block allotment is 1927.13 ha. Mining Plan (Including Progressive Mine Closure Plan) was approved by MoC, GoI.
 - GDK No.1&3 INCLINE: MP & MCP was approved vide Lr. No.13016/2/2006-CA-I, dt.17.10.2014 by MoC, GOI.
 - GDK Coal Mine (No 2 & 2A and No 5): MP & MCP was approved vide Lr. No.38011/12/2017-PCA, dt.22.04.2019 by MoC, GOI and Revised Mining Operations was approved by the Board vide meeting minute No.557:5:20 dated: 27.06.2021 as per the advice of the EAC in the ToR amendment.
- (x) The land usage pattern of the project is as follows:
- (xi) Pre-mining land use details (Area in ha)

S.No.	Land description	Within the ML area			Outside the ML Area
		GDK 1&3 Inc.	GDK Coal Mine (No 2 & 2A and No 5)	Total	
1	Forest Land	Nil	Nil	Nil	Nil
2	Agricultural Land	232.12	673.88	906	Nil
3	Infrastructure, Build up area and roads	40.38	68.28	108.66	Nil
4	Grazing Land	58.27	253.7	311.97	Nil
5	Barren Land	165.65	64.57	230.22	Nil
6	Water Bodies	45.24	57.44	102.68	Nil
7	Plantation	Nil	211.73	211.73	Nil
8	Stock Yards	Nil	50.09	50.09	Nil
9	Others	Nil	5.78	5.78	Nil
Total		541.66	1385.47	1927.13	Nil

**Units in ha*

Post Mining Land Use Details (Area in ha)
GDK 1 & 3 Incline

Type	Land in ha	Land Use (Post Closure) in ha			
		Plantation	Public/ Company Use	Undisturbed	Total
Road & Infrastructure area	50.76	50.76			50.76
<i>a. Pit head Infrastructure</i>	4.32	4.32	-	-	4.32
<i>b. Infrastructure for area administration</i>	5.60	5.60	-	-	5.60
<i>c. Approach Road</i>	12.24	12.24	-	-	12.24
<i>d. Township /Colony</i>	6.00	6.00	--	-	6.00
<i>e. Sand stockyard and stowing</i>	22.60	22.60	-	-	22.60
Rationalization area/Others	54.87	-	54.87	-	54.87
Green Belt	89.91	-	-	-	89.91
Undisturbed/Mining right for UG	346.12	-	-	346.12	346.12
Total	541.66	140.67	54.87	346.12	541.66

GDK Coal Mine (No 2 & 2A and No 5)

Type	Land in ha	Land use (Post Closure) in ha					Total
		Agricultural land	Plantation	Water body	Public/Company	Un-disturbed	
Excavation Area	336.14	-	-	-	-	-	
Backfilled Area	-	-	142.03	-	-	-	142.03
Excavated void	-	-	-	194.11	-	-	194.11
Top soil dump	16.27	-	16.27	-	-	-	16.27
External dump	269.53	-	269.53	-	-	-	269.53
Safety zone	179.00	-	163.08	-	15.92	-	179.00
Tanks/water bodies	29.40	-	-	29.4	-	-	29.40
Settling pond	1.13	-	-	1.13	-	-	1.130
Road and infra structure area	120.78	22.71	48.55	-	49.52	-	120.78
Rationalization area/ Exploration Area	328.29	-	328.29	-	-	-	328.29
Garland drains	16.30	-	-	16.30	-	-	16.30
Green Belt	57.82	-	57.82	-	-	-	57.82
Undisturbed/Mining right for UG	30.81	-	-	-	-	30.81	30.81
Total	1385.47	22.71	1025.57	240.94	65.44	30.81	1385.47

- (xii) Total geological reserve reported in the mine lease area is 333.84 MT with 203.26 MT mineable reserves and 119.34 MT extractable reserves and till 31.03.2020 about 55.87 MT reserves were extracted and the balance extractable reserves of 63.47 MT are available for extraction. Percent of extraction is 58 %.
- (xiii) 9 No's of seams with thickness ranging from 0.30 m – 8.81 m are present of which 8 seam are workable. Grade of coal is G-8 (5028-5061 Kcal/kg), stripping ratio 1:13.70, while gradient is 1 in 3.0 to 1 in 4.5.
- (xiv) Method of mining operations envisages by Opencast cum Underground method.
- (xv) Life of mines in this cluster project as on 01.04.2020 are 57 years for Godavarikhani No.1&3 Incline mine and 15 years for GDK No.2&2A incline mine and 15 years for OC mine from start of the OC operations including construction period.
- (xvi) The project has one external OB dump in an area of 269.53 ha with 120 m height and 197.53 Mm³ of OB. OB shall be backfilled from 6th year onwards and internal OB dump in an area of 142.03 ha with 254.37Mm³of OB.
- (xvii) Total quarry area is 336.14 ha out of which backfilling will be done in 142.03 ha while final mine void will be created in an area of 194.11 ha with a depth of 300 m. Backfilled quarry area of 142.03 ha shall be reclaimed with plantation. Final mine void will be converted into water body.

- (xviii) Transportation of coal from face to the surface will be done by Haulage/Conveyor system in the underground working and in the opencast workings it has been proposed by Dumpers and Conveyor Belts up to mine pit head CHP, from surface to siding by Trucks and at sidings by Rail
- (xix) Reclamation Plan in an area 1188.95 ha (GDK No.1&3: 140.67 ha and GDK coal mine: 1048.28 ha including 22.71 ha of agriculture land) comprising of 269.53 ha of external dump, 142.03 ha of internal dump and 147.73 ha of green belt, an area of 491.37 ha (safety zone/rationalization area) has been proposed for green belt development. In addition to above, 16.27 ha of top soil dump area and 99.31 ha of Road & Infrastructure area are also proposed for green belt development.
- (xx) No Forest Land is involved in this project.
- (xxi) Siwaram (Crocodile) wild life sanctuary falls at a distance of 7.72 km in the South- East direction of the project. Application was submitted for seeking recommendation of the standing committee of NBWL on 25.02.2020 and deliberated in the standing committee of NBWL on 07.08.2021 for issue of NOC. Wild life conservation plan and mitigative measures for Siwaram Wildlife Sanctuary and schedule-I species was prepared by the forest department and approved by PCCF&CWW, Hyd vide Lr No. 3505/202/WL-1 dated 08.04.2021 with a budgetary provision of ₹ 335.68 Lakhs to be spent for 3 years.
- (xxii) The ground water level has been reported to be varying between 1.97 m to 12.98 m during pre-monsoon and between 0.95 m to 11.15 m during post-monsoon. Total water requirement for the project is 7720 KLD.
- (xxiii) Ground water clearance was obtained vide Lr No.128/SCCL/2019, Dated:22.02.2020 for existing Cluster of GDK No. 1&3 Inclines, GDK No.2&2A Inclines and GDK No.5 Incline. Application for Ground water clearance for the proposed expansion made on 11.06.2019 and investigation charges were also paid NOC is expected shortly.
- (xxiv) Public hearing for the project of 5.134 MTPA capacity in an area of 1927.13 ha was conducted on 15.07.2021 at Group Vocational Training Centre (GVTC), near GDK5 Incline mine, RG - I Area, Godavarikhani, Peddapalli District Major issues raised in the public hearing include, Development works in the surrounding villages, employment for local youth, medical facility, drinking water facility and pollution control measures and blasting control measures. Appropriate actions to address the issues raised in the Public Hearing are enclosed as Annexure-1.
- (xxv) Regular monitoring of ambient air quality is being carried out on fortnightly basis. Ambient air quality monitoring carried out during study period 1st December 2019 to 29th February 2020.
- (xxvi) Consent to Operate for the GDK No.1&3 incline, GDK No.2&2A incline and GDK No.5 incline underground mines for existing capacity was obtained from the State PCB on 02.07.2021 and is valid till 31st March, 2026, and for the proposed project CFO will be obtained after grant of EC.
- (xxvii) Nallah No.1 and Nallah No.2, are flowing through the lease boundary in the proposed project. Both the nallahs will be diverted along the boundary of the project. NOC from I&CAD department for diversion of both the nallahs was obtained vide Lr. no. EE/IB/PDPL/DB/HD/D3/205/M dated 05.10.2020.

- (xxviii) Regular monitoring of ambient air quality is being carried out on fortnightly basis for existing GDK No.1&3 incline, GDK No.2&2A Incline and GDK No.5 Incline mines. The results of ambient air quality monitoring data were found within prescribed limits and for the proposed project monitoring of ambient air quality will be done after commissioning of the project.
- (xxix) The present proposal is expansion of the existing GDK No.1&3 incline, GDK No.2&2A incline and GDK No.5 incline underground mines. EC for Cluster of GDK No.1&3 Incline, GDK No.2&2A Incline and GDK No.5 Incline underground mines was obtained under violation category, as per MoEF&CC S.O 804(E), dated 14.03.2017. As, per the S.O 804(E) State government /SPCB should take action against the Project proponent under the provision of the Environment (Protection) Act, 1986. Accordingly, EE, RO, Ramagundam, TSPCB filed a case under Section 15 of the E(P) Act, 1986 in the Court of Hon'ble Additional Judicial Magistrate of F.C. at Godavarikhani on 23.03.2020 with file No. 331/2020 and case is in progress.

Year	EC sanctioned capacity (MTPA)	Actual production (MTPA)	Excess production beyond the EC sanctioned capacity
2020-21	1.734	0.53	Nil

- (xxx) The project involves 115 project affected families. Land compensation for the PAFs will be done as per LARR ACT 2013.
- (xxxii) Total cost of the project is Rs.471.19 Crores {GDK No.1&3 incline :32.21 Cr and GDK coal Mine (No.2&2A and No.5) : 438.98 Cr}. Cost of production: GDK No.1&3 incline (Actual): Rs.11,750.00 per Tonne; *GDK Coal mine (No.2&2A and No.5)*; GDK No. 2&2A Incline (Actual): Rs 11,013.00 per Tonne; OC mine (estimated): Rs. 2510.23per Tonne, CSR cost is 2% of average net profits of the company made during last three years and will be allocated for CSR at company level), R&R cost is Rs. 6.96Crores.
- (xxxiii) Environment Management Cost: Capital cost : Rs 19.94 Crores; Revenue cost: GDK Coal mine (No.2&2A and No.5): Rs.6.61 Cr/ Annum @ Rs.22.02/T; GDK NO.1&3 Incline: Rs. 0.30 Cr/ Annum @ 6.17/T.
- (xxxiiii) Consent to Operate for the GDK No.1&3 incline, GDK No.2&2A incline and GDK No.5 incline underground mines for existing capacity was obtained from the State PCB on 02.07.2021 and is valid till 31st March, 2026, and for the proposed project will be obtained after grant of EC.

18.2.2 The EAC during deliberations noted the following:

- The proposal is for Environment Clearance to Cluster of Godavarikhani No. 1&3 (GDK 1&3) incline and Godavarikhani Khani coal mine (No. 2 & 2a and No. 5) Opencast underground with a production capacity of 4.134 MTPA (Peak-5.134 MTPA) (OC: 3.00 /Peak: 4.00) MTPA and UG: 1.134 MTPA in the Mine lease area of 1927.13 ha of M/s The Singareni Collieries Company Limited, Ramagundam-I area near Janagaon & Vithalnagar Villages, Ramagundam Mandal, District Peddapalli (Telagana).

Description of existing mines and the cluster proposal:

S. No.	Existing cluster of UG Mines			Proposed Cluster project OC cum UG mines			Remarks
	Mine	Existing Area (ha)	Existing Capacity (MTPA)	Mine	Proposed Area (ha)	Proposed Capacity (MTPA)	
1	GDK No.1&3 Incline	541.66	0.486	GDK No.1&3 Incline	541.66	0.486	No Change in rated capacity and extent
2	GDK No. 2&2A Incline	282.76	0.648	GDK Coal Mine (No. 2&2A and No.05)	1385.47	0.648	i. No change in rated capacity and extent for GDK-2&2A Incline, the surface area of the mine will be utilized for OB dumping. ii. Conversion of GDK No.5 into mine to OC mine with additional land for safety zone/ rationalization area, infrastructure area and exploration area.
3	GDK No.5 incline	532.43	0.600			3.00/4.00 (Peak)	
	Total	1356.85	1.734	Total	1927.13	4.134 (5.134 Peak)	

- Earlier, the environment clearance to the project was obtained under EIA Notification, 2006 by MoEF&CC vide letter no: F.No. 23-78/2018-IA-III (V), dated 13.11.2020.
- Terms of Reference for the project was granted by Ministry on: F. No. 23-78/2018-IA-III (V) dated 14.01.2020 while amendment in TOR was granted by Ministry on F. No. 23-78/2018-IA-III (V) dated 17.03.2021
- Wild life conservation plan for schedule I was prepared in consent with forest department and approved by PCCF&CWW, Hyd vide Lr No. 3505/202/WL-1 dated 08.04.2021 with a budgetary provision of Rs 335.68 Lakhs to be spent in 3 years.
- The baseline data has been generated for three months i.e. from March 2019 to May 2019 covering one season (i.e. Summer Season). Number of sampling location monitored were 15.

The result indicates that the maximum and minimum. In Core Zone: PM₁₀ - 180.2 to 221.6 µg/m³

PM_{2.5}- 52.4 to 68.4 µg/m³, SO₂ - 9.6 to 18.0 µg/m³, NO_x - 14.2 to 28.1µg/m³; In Buffer Zone: PM₁₀ - 42 to 90 µg/m³, PM_{2.5} - 22.7 to 54.7 µg/m³, SO₂ - 7.7 to 22.2 µg/m³, NO_x - 11.8 to 28.1 µg/m³

- The observed pollutant levels were compared with CPCB National Ambient Air Quality Standards and found to be well within the limits.
- An ISCST - 3 Latest AERMOD Air Dispersion Model is used to predict changes in air quality in and around the project site i.e., maximum ground level concentration (GLC's) of particulate matter at the receptors (i.e. nearby villages, project area, sensitive areas if any) due to the various activities of the project. The incremental increase in the values were projected:
 - Core Zone: The predicted incremental values were about 8.79 µg/m³ for PM₁₀, 4.61 µg/m³ for PM_{2.5}, 0.005 µg/m³ for SO₂, and 3.67 µg/m³ for NO_x. The depicted value of total GLC reported were 230.39 µg/m³, 73.01 µg/m³, 18.01 µg/m³, 31.78 µg/m³ respectively.
 - In Buffer Zone : The predicted incremental values were about 7.33 µg/m³ for PM₁₀, 2.87 µg/m³ for PM_{2.5}, 0.005 µg/m³ for SO₂, and 3.04 µg/m³ for NO_x. The depicted value of total GLC reported were 93.33 µg/m³, 57.57 µg/m³, 22.20 µg/m³, 31.14 µg/m³ respectively.

Though the value total GLC was under the prescribed Standards.

- Public hearing for the project of 5.134 MTPA capacity in an area of 1927.13 ha was conducted on 15.07.2021 at Group Vocational Training Centre (GVTC), near GDK5 Incline mine, RG - I Area, Godavarikhani, Peddapalli District Major issues raised in the public hearing include, Development works in the surrounding villages, employment for local youth, medical facility, drinking water facility and pollution control measures and blasting control measures. Appropriate actions to address the issues raised.
- It is noted that Public Hearing was scheduled on 28th April, 2021 at 11.30 AM for the project. However, it was not conducted due to order from Telagana State Pollution Control Board on account of the grave Covid-19 situation. Also a Writ Petition was filed in Hon'ble high Court to defer the public hearing due to Covid-19 Accordingly, postponement of PH was published in two daily news papers.
- Further, the Hon'ble Court while disposing WP No.11509 of 2021 has directed that "considering the submission made by the learned Add. Advocate-General, considering the present situation of abnormal spike in Covid-19 positive cases this court directs the respondents to postpone the date of Public Hearing, scheduled to be held on 28.04.2021, for a period of '15'days. At the end of the 15th day the District Collector, who is the Chairmen of the committee as well as the Commissioner of Police, Ramagundam Commissionerate shall take into consideration the

ground realties, existing as on that date, with regard to the Covid-19 pandemic situation and then take a call as to whether the proposed Public Hearing should be held or not?. In case, the committee, after taking staff of the Covid-19 pandemic situation, comes to the conclusion to proceed with the Public Hearing and fixes a date, then give publicity, about the schedule date of Public Hearing shall be given in the local news papers, TV channels and through beat of Tom-Tom. It is needless to mention that the notification, dated 26.03.2021 shall hold good and the further date of hearing will be in continuation of the said notification and no separate notices need to be issued".

- Later, it was directed by the District Collector, Peddapalli through letter dated 05.07.2021 to conduct the Environment Public Hearing for the above project on 15.07.2021 and subsequently, the Member Secretary, TSPCB finalized the Date, Time & Venue as per the EIA Notification-2006 procedure. Subsequently, a press notification was published in two daily newspapers i.e., 'Namasthe Telangana' in Telugu and 'The Hindu' in English on 15.07.2021. The EPH was decided to be held on 15.07.2021 at 11:30 AM at Group Vocational Training Centre (GVTC), Near GDK 5 Incline Mine, RG - I Area, Godavarikhani, Peddapalli District.
- Certified Compliance report from Ministry's Integrated Regional Office, Telangana has been submitted vide IRO's letter dated 11th August, 2021 based on site visit report on 29th July, 2021. EAC found that existing EC conditions for Remediation plan and Natural and Community Resource Augmentation Plan is yet to be complied since its period of completion of 3 years and compliance is falling under first year.
- Nallah No.1 and Nallah No.2, are flowing through the lease boundary in the proposed project. Both the nallahs will be diverted along the boundary of the project. NOC from I&CAD department for diversion of both the nallahs was obtained vide Lr. no. EE/IB/PDPL/DB/HD/D3/205/M dated 05.10.2020.
- As per the primary survey and as per the forest department records and review literature, there are no national parks, biosphere reserves in the study area. However, Siwaram (Crocodile) wild life sanctuary falls at a distance of 7.72 km in the South- East direction of the project. NOC will be obtained from NBWL GoI. Application was submitted in this regard and the proposal is at consideration at Member Secretary NBWL MoEF&CC, GoI. No Forest land is involved in the project area.
- Among 10 species of Herpetofauna, 4 were of reptiles of which Ptyas mucosa is under Schedule II and Varanus bengalensis is under Schedule I of the IWPA, 1972. Among 5 species of amphibians, none of the species are listed are under IWPA, 1972 & IUCN.
- Approval of Ground water clearance has been obtained from State Ground Water Department vide its letter dated 22nd February, 2020.
- Diversion of roads: The following roads pass over/by the side of the mine area. 1. 2.20 km, Zilla

Parishad road connecting Sundilla village. 2. 2.60 km. road connecting Mustyala village. 3. 7.47 km. road connecting GDK 2&2A Incline area to GDK 11 Incline via GDK 5 Incline. All the three roads are proposed to be diverted along dip side boundary of the proposed quarry for public use. Proposed diversion length within mine area is about 4.54 km. NoC was accorded by Engineer- in - chief (R&B) Department of Government of Telangana for diversion of existing roads by SCCL Authorities, vide Lr. No 2726/KMNR/DEE-3/AEE/2014 dated 11.11.2020.

- Sundilla tank, Gudellgullapalli tank, Narasimhullu palli tank, and mustyala tank exists over the property of the GDK coal mine (No.2&2A and No.5) all the tank will not be disturbed and protected during entire life of the mine.
- Diversion of nallahs: The two ephemeral nallahs flowing over the project area viz. Nallah No.1 and Nallah No.2 with a total length of 6.29 km are proposed to be diverted through the western boundary of the project and the diversion length within mine area is about 4.59 km. NoC was accorded by Irrigation & CAD Department of Government of Telangana for proposed diversion of nallahs in the project, vide Lr. No. EE/IB/PDPL/DB/HD/D3/205/M, dated 05.10.2020.
- Details of Cumulative Impact Assessment (CIA) study was later supplemented through Email in absence of document in EIA.

18.2.3 *The EAC after deliberations observed that instant proposal for expansion and conversion of one of underground mine to opencast mine. EAC deliberated the partial compliances and some non-compliance report in certified compliance report of Ministry's IRO dated 11th August, 2021 and desire it should be completed in a time bound manner as stipulated existing EC (i.e in three year) . The Committee found that public consultation was earlier planned, however, got deferred due to Covid. and EAC also suggested to opt for revenue plantation like of fruits bearing trees as Telangana state is known producer of fruits and vegetables in the demand market, the benefit of revenue generation will also grasp the attention of nearby villagers in maintenance of these plants and trees and also asked PP to establish some market for the villagers. EAC observed displeasure with M/s EPTRI (consultant of PP) due to inconsistency in the data of E-coli and BOD Value and accordingly cautioned PP.*

*In view of facts and documents submitted by project proponent, EAC **recommends** the proposal for grant of Environment Clearance to Cluster of Godavarikhani No. 1&3 (GDK 1&3) incline and Godavarikhani Khani coal mine (No. 2 & 2a and No. 5) Opencast underground with a production capacity of 4.134 MTPA (Peak-5.134 MTPA) (OC: 3.00 /Peak: 4.00) MTPA and UG: 1.134 MTPA in the Mine lease area of 1927.13 ha of M/s The Singareni Collieries Company Limited, Ramagundam-I area near Janagaon & Vithalnagar Villages, Ramagundam Mandal, District Peddapalli (Telagana), under the provisions of Environment Impact Assessment, 2006 and its amendments therein with standard EC conditions and following additional conditions for environment safeguards.*

(i) *PP shall comply all conditions mentioned in EC granted by Ministry vide letter no: F.No. 23-78/2018-IA-III (V), dated 13.11.2020 within in 3 years.*

- (ii) *Permission from National Board of Wildlife shall be obtained for Siwaram (Crocodile) wild life sanctuary falls at a distance of 7.72 km.*
- (iii) *PP shall separate issues (activity proposed) raised in public hearing from CSR activity and accordingly submit the compliance to Ministry's Integrated Regional office (IRO) within six months of issue of this letter.*
- (iv) *PP shall submit water quality report of nearby tanks and conduct bio-assay test of Godavari River and submit to Ministry's IRO on half yearly basis.*
- (v) *Third party monitoring (by reputed institute) for air quality shall be carried out at identified locations, both ambient and the process area, to oversee the impact and mitigations measures vis-à-vis details mentioned EIA report.*
- (vi) *10 Fog canon covering 40-45 water jet length shall be installed to reduce the impact of air pollution for nearby villages, along the haul road, transportation route and at railway siding.*
- (vii) *PP should establish in house (at project site) environment laboratory for measurement of environment parameter with respect to air quality and water (surface and ground. A dedicated team to oversee environment management shall be setup which should comprise of Environment Engineers, Laboratory chemist and staff for monitoring of air, water quality parameters on routine basis.*
- (viii) *2 nos. of water tank will be created by PP in one year for nearby villages, which should be maintained including its desiltation for 10 years to meet the drinking water requirement and Regularly monitored every six months (of atleast 10 tanks). Budgetary allocation for this purpose shall be fixed within 3 months and size and water requirement for local people shall be worked out with gram panchayat.*
- (ix) *PP shall regular supply domestic water by treating mine water to nearby villages through water distribution pipeline network and proof to be shared to IRO Hyderabad*
- (x) *PP shall employ appropriate measure to control the environmental impacts of blasting such as noise, vibration, air blast etc. Use of state of the technology solution for design and simulation of each blast is strongly recommended to minimize the environmental impacts of blasting. PP should as far as possible maintain a distance of 500 m from the blasting point to the nearby habitation.*
- (xi) *In-active OB dump shall not be kept barren/open and immediately reclaimed and re-graded to improve the land form and covered by temporary grass etc. for better land use post mining on closure*
- (xii) *PP shall regularly check the water quality of mine pit water for drinking water standards at regular interval of time.*
- (xiii) *Peripheral tree plantation with atleast 20 mts width around the affected villages and nearby villages due to mining activities shall be done near Jangaon, Mustyala, Jallaram and Sundilla villages.*
- (xiv) *Persons of nearby villages shall be given training on livelihood and skill development to make them employable.*
- (xv) *Project Proponent shall deploy rock breakers of suitable capacity in the project to avoid blasting very near to villages. There shall be no damages caused to habitation/structures due to blasting*

activity

- (xvi) PP shall pay to farmers of agricultural land if there is any loss and for cracks in the house due to blasting found by concerned District Commissioner as per extent rules or norms.*
- (xvii) PP shall establish new Effluent Treatment plant for expansion project and obtain the CTO after its commission within 1 one year of issue of EC letter.*
- (xviii) PP shall install continuous online monitoring station (24X7) at appropriate location and data so generated should be displayed at entry gate of mine for public domain within period of 6 months and also shared with respective SPCB and upload on the company's website*
- (xix) PP shall submit allocated fund of Rs 335.68 Lakhs to be spent in 3 years for Wild life conservation plan for schedule I to forest department as approved by PCCF&CWW, Hyderabad vide Lr No. 3505/202/WL-1 dated 08.04.2021 within six month of issue of this letter.*
- (xx) Continuous monitoring of subsidence be carried out and mitigation measures should be taken.*
- (xxi) Progressive Mine Closure activity shall be carried out as per approved Mine Plan and Mine Closure plan.*
- (xxii) Adequate safety measures shall be taken for underground mine wherein fly ash/bottom ash are being used for stowing of mine instead of sand with Continuous water quality monitoring.*
- (xxiii) PP shall transport coal through conveyor belt from CHP till the railway siding.*
- (xxiv) PP shall install 10 mts height of wind barrier to arrest the fugitive dust movement along the railway siding within 6 months of issue of this letter with trees plantation at least 5-10 mts heights.*
- (xxv) 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 has 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 MoEFCC.*

Agenda No. 18.3

Expansion of Gevra Opencast Coal Mine, from 49 MTPA to 70 MTPA with increase of mine in lease area from 4184.486 Ha to 4781.798 Ha of M/s South Eastern Coalfields Limited located in Tehsil Katghora, District Korba (Chhattisgarh) -For Terms of References-reg

[Online Proposal No. IA/CG/CMIN/221371/2021; File No. J-11015/85/2010-IA II (M)].

18.3.1 The proposal is for Expansion of Gevra Opencast Coal Mine, from 49 MTPA to 70 MTPA with
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increase of mine in lease area from 4184.486 Ha to 4781.798 Ha of M/s South Eastern Coalfields Limited located in Tehsil Katghora, District Korba, State Chhattisgarh.

18.3.2 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, Scale- 1:50000 and is bounded by the geographical coordinates ranging from 22018'00" to 22021'42" N and 82032'00" to 82039' 30" E.
- (ii) Coal linkage of the project is proposed for NTPC and Various thermal power plants.
- (iii) No Joint venture cartel has been formed
- (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, employment to 4391 persons will be provided from the project.
- (vi) The project is reported to be beneficial in terms of: Project will considerably improve the socio-economic status of the adjoining areas. This will result in benefits such as improvements in physical infrastructure; improvements in social infrastructure, increase in employment potential, contribution to the exchequer, meet energy requirement and post-mining enhancement of green cover.
- (vii) Earlier, the Environmental Clearance of Gevra opencast was accorded
- (viii) Vide J-11015/85/2010-IA.II(M) Dt: 10TH May 2021 for Gevra Opencast Coal Mine from 45 MTPA to 49 MTPA of M/s South Eastern Coalfields Limited in mine lease area of 4184.486 ha. in district Korba CG- Environment Clearance under clause 7 (ii) (under Ministry OM dated 15th Sept 2017) of EIA Notification, 2006
- (ix) Mining plan for 49 MTPA was approved by SECL Board in its 262nd meeting held on 10th/11th October 2017. Mine closure plan is an integral part of mining plan.
- (x) 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 (Ha.)	OUTSIDE ML AREA (Ha.)	TOTAL (Ha.)
1	Agricultural land	1732.968	1234.683	2967.651
2	Forest land	535.703	575.002	1110.705
3	Waste Land	0	0	0
4	Grazing Land	32.879	0	32.879
5	Surface Water Bodies	16.58	0	16.58
6	Settlements	0	0	0
7	Others (Specify) Govt. Land	317.22	336.763	653.983
	TOTAL	2635.35	2146.448	4781.798

Post Mining

S No	Pattern of utilization	Area (ha)
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1	Reclaimed External and Internal dumps	1762.18
2	Green belt	5.67
3	Final void /Water body	1347.5
4	Built up area (Infrastructure, colony, roads, R & R site)	1249.062
5	Safety zone: Undisturbed area	417.386
	Total	4781.798

- (xi) Total geological reserve reported in the mine lease area is 1940.98 MT (as on 01.04.2014) with 1337.68 MT (as on 01.04.2014) mineable reserve. Total Mineable reserve within 4781.798 Ha (as on 01.04.2021) is 1045.428 MT. Out of total mineable reserve of 1045.428 MT within 4781.798 Ha, 1045.428 MT are available for extraction. Percent of extraction is 100%.
- (xii) 18 nos. seams with thickness ranging from 0.70 m – 70.34 m are workable. Grade of coal is G 10, stripping ratio 1.62 cum/ton, while gradient is 1 in 6 to 1 in 12
- (xiii) Method of mining operations envisages by Open cast mining with Surface Miner and Shovel-Dumper combination
- (xiv) Life of mine is 15 years.
- (xv) The project has 7 nos. external OB dumps in an area of 480 ha with 90 m height and 147.60 Mm³ of OB. 2 nos. internal OB in an area of 1287.85 ha with 2166.61 Mm³ of OB is envisaged in the project.
- (xvi) Total quarry area is 2635.35 ha out of which backfilling will be done in 1287.85 ha while final mine void will be created in an area of 1347.5 ha with a depth of 40 m. Backfilled quarry area of 1287.85 ha shall be reclaimed with plantation. Final mine void will be converted to water body.
- (xvii) Transportation of coal has been proposed from face to in-pit crusher is by trucks, from in-pit crusher to surface Ground bunker is by conveyor system, from Ground Bunker to Silos is by belt conveyor & finally from Silos to consumers: By Rail & MGR
- (xviii) Reclamation Plan in an area of 1768.52 ha, comprising of 480 ha of external dump, 1282.85 ha of internal dump and 5.672 ha of green belt. Other areas 1249.062 ha includes excavation areas along ML boundary, along roads and infra, embankment area and in township located outside the lease etc. An area of 417.386 ha as Safety Zone.
- (xix) 1110.705 ha of forest land has been reported to be involved in the project. The status of diversion of forest land for non - forestry purposes is as under:-

Area (in ha)	Stage-1 /Final FC issued vide letter no. and date	Validity period of FC
100.898	vide MoEF Clearance F no.8-33/2005-FC dated 05.05.2008	Co-terminus with the mining lease or 20 years
46.198	vide MoEF Clearance F no.8-81/ 2006-FC dated 20-04-2015	Co-terminus with the mining lease
192.046	vide MoEF Clearance F no.8-77/2006 – FC, dated 20-04-2015	Co-terminus with the mining lease
564.885	vide MoEF Clearance F no.8-79/2006 –	Co-terminus with the

	FC, dated 20-04-2015	mining lease
112.385	vide MoEF&CC Clearance F.No. 8-41/2017-FC dated 27.09.2017.	Co-terminus with the mining lease
1016.41 2	Total forest land for which Stage-1 Forestry Clearance obtained	

Proposal for Stage-1 FC for 94.293Ha of additional Forest land has been applied vide no. FP/CG/MIN/41389/2019.

- (xx) No National Parks, Wildlife Sanctuaries and Eco-Sensitive Zones fall within 10 km boundary of the project.
- (xxi) The ground water clearance was obtained on 22.01.2019 for 11487 m³/day withdrawal of ground water vide NOC no. CGWA/NOC/MIN/ORIG/2018/4474, from Central ground water Authority, Ministry of water Resources Govt. of India. Application for renewal of NOC has been made online (Application no. 21-4/630/CT /MIN /2017 Dt: 02.12.2020).
- (xxii) Public hearing for the project of 35 MTPA capacity in an area of 4184.486 ha was conducted on 22.08.2008 in the premises of Tehsil Office, Katghora, District Korba. Major issues raised in the public hearing include compensation, Rehabilitation & resettlement, Facilities at R&R sites, pollution control etc. Appropriate action to address the issues raised in the Public Hearing have already been taken/are being taken. Fresh public hearing will be conducted for 70 MTPA after obtaining ToR.No court cases, violation cases are pending against the project of the PP.
- (xxiii) Consent to Operate for capacity (45 MTPA) was obtained from the Chhattisgarh Environment Conservation Board, Raipur on 20.03.2018 and valid for one year; 23.02.2019 and valid till 29.02.2020; 23.01.2020 and valid till 28.02.2021 & 08.02.2021 and valid till 28.02.2022. Application of CTE/CTO for 49 MTPA has been applied to CECB, Raipur on 4.6.2021
- (xxiv) Hasdeo river is the main drainage of the area flowing 08 kms from mine boundary. The study area includes a number of seasonal nallah and tributaries of Hasdeo river like Ahiran, Kholar nallah. Lilagar river also flows through the study area of project.Total cost of the project is Rs. 2300 Crores. Cost of production is Rs. 1400/- per tonne., CSR cost will be decided after public hearing, R&R cost is Rs 150 crores. Environment Management Cost will be providing during EIA.
- (xxv) Regular monitoring of ambient air quality is being carried out with frequency of twice a week. The documented report is submitted to APCCF, MoEFCC, Regional Office, Nagpur, Member Secretary, Paryavas Bhavan , Raipur and RO CECB, Korba 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) There are court cases pending with the project proponent as per the following details: -

Details of Court Case

	Case no.	Court	Case Details	Status as on 26.03.2021

1	1217/ 2007	Presently the case no. is 886/2015 and the case is at Chief Judicial Magistrate Korba.	Regional Office, Chhattisgarh Environment Conservation Board, Korba Vs CGM Dipka Extension Project Gevra Area SECL for coal production in excess of 10 MTPA consented capacity. The Criminal complaint was filed under Sec.15 &17 of EP Act and the year of violation was 2001-02 to 2004-05	Last 3 Hearing dates given were 05/03/21 16/03/21 23/04/21 and got Adjourned due to COVID-19. Next hearing on 28.08.21
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(xxvii) The project does not involve violation of the EIA Notification, 2006 and amendment issued there under. The coal production from the mine was started from the year 1981-82 onwards. Details of production of coal with sanctioned capacity since the commencement of mining operations has been given in point no. xxxvii.

(xxviii) The project involves 7000 project affected families. R&R of the PAPs will be done as per CIL R&R Policy, whereas Compensation are being done as per CG R&R Policy.

(xxix) Total cost of the project is Rs. 11816.40 Crores. Cost of production is Rs. 566.02 /- per tonne, CSR cost: According to new CSR policy the fund for the CSR should be allocated, based on 2% of the average net profit of the Company for the three immediate preceding financial years or Rs. 2.00 per tonne of coal production of previous year, whichever is higher, R&R cost is Rs. 564.44 crores. Environment Management Cost is Rs. 189.97 crores.

(xxx) Consent to operate (CTO) was obtained from the State Pollution Control Board on 08.02.2021 and valid till 28.02.2022

Application of CTE/CTO for 49 MTPA has been applied to CECB, Raipur on 4.6.2021

(xxxi) Past Production details comparison with existing EC

Year	Approved EC/Consented Capacity (MTPA)	Actual Production (MTPA)	Excess production beyond the EC sanctioned capacity
1981-82		0.05	
1982-83		0.32	
1983-84		1.43	
1984-85	(Consent)10.00	3.28	Mine Pre-dated EIA Notification 1994, Was Running on Consents. First Consent letter issued on 06.05.1994.
1985-86	-do-	4.21	
1986-87	-do-	5.00	
1987-88	-do-	6.50	
1988-89	-do-	8.21	
1989-90	-do-	9.70	
1990-91	-do-	11.21	1.21
1991-92	-do-	13.20	3.20
1992-93	-do-	13.30	3.30

1993-94	-do-	14.04	4.04
1994-95	-do-	14.62	4.62
1995-96	-do-	15.44	5.44
1996-97	-do-	16.83	6.83
1997-98	-do-	17.88	7.88
1998-99	-do-	17.29	7.29
1999-2000	-do-	18.02	8.02
2000-01	-do-	18.89	8.89
2001-02	-do-	18.97	8.97
2002-03	-do-	19.54	9.54
2003-04	-do-	21.885	11.89
2004-05	(EC) 25.00	26.15	1.15
2005-06	25.00	26.46	1.46
2006-07	25.00	27.22	2.22
2007-08	25.00	29.055	4.055
2008-09	25.00	32.10	7.10
2009-10	35.00	35.00	-
2010-11	35.00	35.00	-
2011-12	35.00	35.00	-
2012-13	35.00	35.00	-
2013-14	40.00	38.70	-
2014-15	41.00	41.00	-
2015-16	41.00	41.00	-
2016-17	41.00	41.00	-
2017-18	45.00	41.433	-
2018-19	45.00	42.251	-
2019-20	45.00	45.000	-
2020-21	45.00	40.568	-
2021-22 (upto July'21)	49.00	11.393	

18.3.3 The EAC during deliberations noted the following:

- The proposal is for Terms of Reference of Expansion of Gevra Opencast Coal Mine, from 49 MTPA to 70 MTPA with increase of mine in lease area from 4184.486 Ha to 4781.798 Ha of M/s South Eastern Coalfields Limited located in Tehsil Katghora, District Korba, State Chhattisgarh.
- Earlier, the Environmental Clearance of Gevra opencast was accorded Vide J-11015/85/2010-IA.II(M) Dt: 10th May 2021 for Gevra Opencast Coal Mine from 45 MTPA to 49 MTPA of M/s South Eastern Coalfields Limited in mine lease area of 4184.486 ha. in district Korba, CG

Environment Clearance under clause 7 (ii) (under Ministry OM dated 15th Sept 2017) of EIA Notification, 2006.

- The forest land of 1110.705 ha is involved and for which Stage -I Forest clearance has to be taken by PP
- Hasdeo river is the main drainage of the area flowing 08 kms from mine boundary. The study area includes a number of seasonal nallah and tributaries of Hasdeo river like Ahiran, Kholar nallah. Lilagar river also flows through the study area of project.
- Application of CTE/CTO for 49 MTPA has been applied to CECB, Raipur, but no approval has so far been received.

18.3.4 *The EAC after deliberations observed that earlier expansion project was recently granted by the Ministry i.e. from 45 MTPA to 49 MTPA in May 2021 under the provision of clause (ii) of EIA notification, 2006 and now the PP have applied it for further expansion to 70 MTPA. Though the PP had proposed to go for public hearing after the grant of ToR, but the EAC had found that the CTO for the expansion of 49 MTPA has not been obtained by PP, so EAC asked the PP to follow the proper procedure mandatorily. It was also observed that Mine plan for the project is under the process of approval. Further, it was noted that as per the condition no (ii) given in previous EC the PP should comply all the noncompliance of existing and previous EC by October 2021. Accordingly, EAC observed that PP is going for production capacity of 49 MTPA despite that no CTE/CTO is obtained for exiting EC. Also many non-compliances are not yet complied by PP. Hence EAC suggested to focus first compliances of previous EC on priority.*

Further, it was also noted that there is public representation against the project wherein it has been stated that various court cases regarding R & R, commitment of employment by PP, adequate compensation for procurement of land, effect on nearby rivers and streams, impact of blasting activity etc. EAC desired that it would be appropriate to conduct site visit by EAC subcommittee before grant of any expansion proposal in the area. EAC constituted subcommittee as discussed during the meeting were; Chairman (EAC), Shri, N P Shula (Member), Shri S. Vora (member), Prof. S S Rai and representative of MoEF&CC.

*In view of above, proposal was **deferred** for conducting site visit.*

Agenda No. 18.4

Takli Jena Bellora (North & South) Opencast cum Underground Coal Mine of overall capacity 1.5 MTPA in total area of 936 Ha (OC – 236.9 Ha; UG – 699.10 Ha) of M/s Aurobindo Realty Infrastructure Pvt Ltd (ARIPL) in Village Bellora, Tehsil Bhadravati, District Chandrapur (Maharashtra) - For Terms of References-reg

[On line proposal No. IA/MH/CMIN/223819/2021 File No. IA-J-11015/62/2021-IA-II(M)]

18.4.1 The proposal is for Terms of Reference of Takli Jena Bellora (North & South) Opencast cum Underground Coal Mine of overall capacity 1.5 MTPA in total area of 936 Ha (OC – 236.9 Ha; UG – 699.10 Ha) of M/s Aurobindo Realty Infrastructure Pvt Ltd (ARIPL) in Village Bellora, Tehsil Bhadravati, District Chandrapur (Maharashtra).

18.4.2 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 55P/4 and is bounded by the geographical coordinates ranging from 20009'16" N to 20011'57" N and longitudes 79003'41" E and 79006'21" E.
- (ii) Coal linkage of the project is proposed to meet the coal requirement of supply demand in the country.
- (iii) No Joint venture cartel has been formed:
- (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.
- (v) Employment generation, Direct and Indirect employment is expected for about 1130 persons will be provided from the project.
- (vi) The project is reported to be beneficial in terms of the project will improve the socio-economic status of the society in the region by generating direct and indirect employment opportunities. The project will contribute additional revenue to the State & Central exchequers in the form of taxes, cess, etc
- (vii) No earlier environment clearance to the project was obtained under EIA Notification
- (viii) The proposal is for obtaining Terms of Reference for Underground Coal Mine and opencast Coal mine.
- (ix) Total mining lease area as per block allotment is 936 Ha. Mining Plan (Including Progressive Mine Closure Plan) – Approval under process from Ministry of Coal.
- (x) 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
1	Agricultural Land	893
2	Forest Land	NIL
3	Wasteland	-
4	Grazing Land	-
5	Surface Water Bodies	-
6	Settlements	11
7	Others (Specify)	-
8	Old Excavation Area	6.4
10	Old OB Dumps	8.1
11	Roads & Mine Infrastructure	5

12	R & R Colony	-
13	Staff Colony	-
14	Green Belt	-
15	Balance Area	-
	Total Project area	936

Post Mining Landuse

S.No	Land Use	Land use (Ha)				
		Plantation	Water Body	Public Use	Undisturbed	Total
1	External OB dump	85.28	-	-	-	85.28
2	Top soil dump	4.40	-	-	-	4.40
3	Excavation	132.18	-	-	-	132.18
4	Roads	-	-	7.00	-	7.00
5	Built-up Area	30.30	-	-	-	30.30
6	Green Belt	26.32	-	-	-	26.32
7	Undisturbed Area	-	-	-	643.60	643.60
8	Safety Zone / Rationalization Area	-	-	-	-	-
9	Diversion / Below River / Nala / Canal	-	1.56	-	-	1.56
10	Water Body	-	-	-	-	-
11	Staff Colony	-	-	-	-	-
12	Settling Pond	2.63	-	-	-	2.63
13	Coal Stack & CHP	2.72	-	-	-	2.72
	Total Area =	283.84	1.56	7.00	643.60	936.0

- (xi) Total geological reserve reported in the mine lease area is 100.637 MT with 88.5 MT mineable reserve. Out of total mineable reserve of 88.5 MT, 33.35 MT are available for extraction. Percent of extraction is (OC - 80%; UG – 35%).
- (xii) 3 seams with thickness ranging from 0.12 m – 14.19 m are workable. Grade of coal is OC(G10, G9) ; UG (G7,G9), stripping ratio 1:6.73, while gradient is 4.5 to 16.86 (IN DEGREES)
- (xiii) Method of mining operations envisages by Opencast cum underground method
- (xiv) Life of mine is 30 years.
- (xv) The project has 2 external OB dumps in an area of 85.3 Ha with 60m height and 16.43 Mm³ of OB. 1 internal OB in an area of 132.18 Ha with 70 Mm³ of OB is envisaged in the project.
- (xvi) Total quarry area is 132.18 Ha out of which backfilling will be done in 80.60 Ha while final mine void will be created in an area of 51.58 Ha with a depth of 10 m. Backfilled quarry area of 283.84 Ha shall be reclaimed with plantation. Final mine void will be converted to a

permanently stable landscape that is both aesthetically and environmentally compatible with surrounding undisturbed lands, but also take into consideration aesthetics, intended use, and versatility when shaping the land in order to construct a land resource with both maximum feasible utility and versatility for future generations.

- (xvii) Transportation of coal has been proposed by Dumpers/Trucks in mine pit head, from surface to siding by Trucks and at sidings by Rail.
- (xviii) Reclamation Plan in an area of 217.46 Ha, comprising of 85.28 Ha of external dump, 132.18 Ha of internal dump and 6.32 Ha of green belt. In addition to this, an area of 20 Ha, included in the safety zone/rationalization area, has also been proposed for green belt development.
- (xix) No forest land has been reported to be involved in the project.
- (xx) No National Parks, Wildlife Sanctuaries and Eco-Sensitive Zones have been reported with 10 km boundary of the project.
- (xxi) Total water requirement for the project is 1674.03 KLD (Potable water: 94.03 KLD; Industrial water: 1580 KLD). Detailed Hydrogeology study in progress. Application for obtaining the Approval of the Central Ground Water Authority will be submitted.
- (xxii) Bellora nalla is flowing through boundary of lease. The nallah will be diverted in consultation with the Water Resource Department of the State Government.
- (xxiii) No. of court cases: Yes, Case No: WP (C) 5701/2021 & CM APPL 17807/2021.
- (xxiv) The project does not involve violation of the EIA Notification, 2006 and amendment issued thereunder as it is a green project.
- (xxv) The project involves 1440 (approx.) project affected families. R&R of the PAPs will be done as per the EIA notification. Detailed R & R studies will be carried out.
- (xxvi) Total cost of the project is Rs. 65520.lakhs. CSR cost –Rs 13.10 Crores As per norms of Companies Act 2013, R&R cost is Rs 25 Crores. Environment Management Cost is Rs 52.416 crores. Detailed EIA/EMP study will be carried out.

18.4.3 The EAC during deliberations noted the following:

- The proposal is for Terms of Reference of Takli Jena Bellora (North & South) Opencast cum Underground Coal Mine of overall capacity 1.5 MTPA in total area of 936 Ha (OC – 236.9 Ha; UG – 699.10 Ha) of M/s Aurobindo Realty Infrastructure Pvt Ltd (ARIPL) in Village Bellora, Tehsil Bhadravati, District Chandrapur (Maharashtra).
- Nominated Authority, Ministry of Coal, GoI, under the provisions of the Coal Mines (Special Provisions) Act, 2015 and Coal Mines (Special Provisions) Rules, 2014 issued the Vesting Order No. NA-104/19/2020-NA dated 03-03-2021 in favour of M/s Aurobindo Realty Infrastructure Pvt Ltd (ARIPL)
- It is a mixed mine having opencast as well as underground mine.
- No forest land is involved for diversion for non-forestry activity
- Bellora nalla is flowing through boundary of lease. The nallah will be diverted in consultation with the Water Resource Department of the State Government.
- The approval of Mining Plan is under process.

- High tension power line with poles unsurveyed is crossing by within the mine lease area as per the Topo sheet Map.
- It was note the mine is involved in on court case i.e. Case No: WP (C) 5701/2021 & CM APPL 17807/2021. As per Order dated 04-06-2021 the Hon'ble Court has directed the Nominated Authority for submission of valuations of land attached

*18.4.4 The EAC after deliberations observed that the proposal is for greenfield open cast cum underground coal mining project. The overall peak capacity is 1.5 MTPA with 1.1 MTPA OCP and 1 MTPA in UG at different time interval as per proposed Mine Plan. It was found that PP had mentioned the cost of the project as 100 crores and then had sent a request letter to correct it as 655.2 crores as also mentioned in PFR too, so after going through it EAC accepted the request to consider the cost as 655.2 crores and also suggested PP to consider the CSR and EMP cost respectively. Further, it was suggested to PP that agricultural activity in the project shall be kept intact without change on the block where underground mining is carried out. The PP informed the EAC about the permission seek for diversion of Bellora nallah passing by the site and the box cut is near nallah. PP informed that there are three streams passing through Mine lease area i.e. Khandala, Tikri, Bellor Streams. Bellora nala flowing across the block is proposed to be diverted near the eastern end of the pit and will be connected to the Konda Nallah. The diversion is proposed at sector-9 near the culvert between both the external dumps which will be diverted around the perimeter of the external dump 2 and will be taken out of the boundary near the southern end of the pit. EAC suggested that Project Proponent may provide approved mining plan before the next meeting. EAC decided to **recommend** the proposal the issuance of standard TOR to Takli Jena Bellora (North & South) Opencast cum Underground Coal Mine of overall capacity 1.5 MTPA in total area of 936 Ha (OC – 236.9 Ha; UG – 699.10 Ha) of M/s Aurobindo Realty Infrastructure Pvt Ltd (ARIPL) in Village Bellora, Tehsil Bhadravati, District Chandrapur (Maharashtra), under the provisions of EIA Notification, 2006 and its amendments therein with following specific condition:*

- (i) *Public Consultation, including public hearing, shall be conducted through concerned SPCB as per the provisions/procedure contained in the EIA Notification, 2006 for information of the stakeholders in both districts about the present coal mining operations inviting comments and their redressal.*
- (ii) *PP should submit the real time aerial footage and video of the Mining lease area made through drone.*
- (iii) *Cumulative Impact Assessment Study of the area shall be carried over by project proponent considering the project being in proximity of other mines.*
- (iv) *PP shall submit design details of all Air Pollution control equipment (APCEs) to be implemented as part of Environment Management Plan vis-à-vis reduction in concentration of emission for each APCEs.*
- (v) *Clarification from PCCF that mine does not fall under corridors of any National Park and Wildlife Sanctuary and does not involve any violation of forest area and wild sanctuary.*
- (vi) *PP should bring out the awareness campaign to be carried out on various Environmental*

issues, practical training facility to be provided to the environmental engineer/diploma holders, mining engineer/diploma holders, geologists, and other trades related to mining operations. Target for the same needs to be submitted.

- (vii) Wind rose pattern in the area should be reviewed and accordingly location of AAMSQ shall be planned by the collection of air quality data. Monitoring location for collecting baseline data should cover overall the 10 km buffer zone i.e. dispersed in 10 km buffer area
- (viii) Project proponent to prepare Environmental Cost Benefit Analysis for the project in EIA/EMP Report.
- (ix) Permission for ground water withdrawal shall be obtained from Central Ground Water Authority (CGWA), if taken.
- (x) Impact of proposed project/activity on hydrological regime of the area considering the facts of Wardha rivers and other tributaries (Shirnai nadi, Wagjai nadi) shall be assessed and report be submitted. Hydrological studies as per GEC 2015 guidelines to be prepared and submitted
- (xi) Heavy metals including other parameters in surface water quality shall be analyzed and provided in EIA Report. The parameters Arsenic, Lead and Silica shall also be analyzed in ambient air quality.
- (xii) PP shall submit detailed project report for implementation of railway siding for evacuation of coal with its target date of completion. Target date should be such that railway siding should be operational within 2 years of commissioning of mine operations. Forest Clearance shall be submitted if railway siding land comes under forest land.
- (xiii) PP shall provide the details of mining technology/methodology proposed to be adopted for coal mining operations and its associated environmental benefits of using from Climate Change perspective.
- (xiv) Description of water conservation measures proposed to be adopted in the Project should be given.
- (xv) Detailed Social Impact Assessment shall be prepared in villages for Rehabilitation and Re-settlement. R &R Activity shall be proposed with timeline and allotted fund.
- (xvi) PP shall propose to use LNG/CNG based mining machineries and trucks for mining operation and transportation of coal.
- (xvii) PP shall conduct detailed study the subsidence, its impact due to mining activity and propose mitigation/management measures.
- (xviii) A detailed traffic study along with presence of habitation in 100 mts distance from both side of road, the impact on the air quality with its proper measures and plan of action with timeline for widening of road.
- (xix) PP shall not do any activity on forest land and further limited land shall be used on surface for shaft and other infrastructure of mining.
- (xx) PP shall submit details of implementation of laying conveyor belt for transportation of coal from nearest mine to the washery.
- (xxi) PP shall provide the plan for reduction of number of trucks for transportation of coal and fleet to be redesigned by adopting the measure of installing conveyor belts within 1 and a half years from commencement of mining activities.

- (xxii) PP shall propose to use groundwater utilization only for 2 years from the commencement of mine and later only mine water shall be used for operation and domestic purpose.
- (xxiii) PP shall provide provision of integrated mine plan and mine reclamation cum land form / land scape plan for both underground and open cast coal mining projects. The plan must show the predicted post mining reclaimed and reformed surface by regarding and reshaping to reduce its height as close to the original surface level and proper sloping benching and terracing of external dump should be clearly brought out in the post mine closure plan. This would also include water management strategies such as surface water catchment and drainage paths etc. of post mining land surface. The final mine void shall be reduced and brought as near as ground so that land can be restored and reclaimed
- (xxiv) Details of toe wall and garland drain to be constructed along the OB dump.
- (xxv) Reclamation to be done using geo-texturing technique of the dumps close to habitation and a cause of visual intrusion.

The meeting ended with thanks to the Chair.

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 air borne dust. Drills shall be wet operated or fitted with dust extractors.
 - (vii) Coal handling plant shall be operated with effective control measures w.r.t. various environmental parameters. Environmental friendly sustainable technology should be implemented for mitigating such parameters.
- (c) Water quality monitoring and preservation**
- (i) The effluent discharge (mine waste water, workshop effluent) shall be monitored in terms of the parameters notified under the Water Act, 1974 Coal Industry Standards vide GSR 742 (E) dated 25th September, 2000 and as amended from time to time by the Central Pollution Control Board.
 - (ii) The monitoring data shall be uploaded on the company's website and displayed at the project site at a suitable location. The circular No.J-20012/1/2006-1A.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 sizes 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 need to be provided.
- (ix) The water pumped out from the mine, after siltation, shall be utilized for industrial purpose viz. watering the mine area, roads, green belt development etc. The drains shall be regularly desilted particularly after monsoon and maintained properly.
- (x) The surface drainage plan including surface water conservation plan for the area of influence affected by the said mining operations, considering the presence of river/rivulet/pond/lake etc, shall be prepared and implemented by the project proponent. The surface drainage plan and/or any diversion of natural water courses shall be as per the approved Mining Plan/EIA/EMP report and with due approval of the concerned State/GoI Authority. The construction of embankment to prevent any danger against inrush of surface water into the mine should be as per the approved Mining Plan and as per the permission of DGMS or any other authority as prescribed by the law.
- (xi) The project proponent shall take all precautionary measures to ensure riverine/riparian ecosystem in and around the coal mine up to a distance of 5 km. A

rivarine/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 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 landreclamation 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 inline 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 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 follow the mitigation measures provided in this Ministry's OM No.Z-11013/5712014-IA.11 (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

- aboveconditions 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.

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-20012/1/2006-1A.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 purpose viz. 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, alongwith fly ash for external dump of overburden, backfilling or stowing of mines. Compliance report shall be submitted to Regional Office of MoEF&CC, CPCB and SPCB.
 - v. A separate team for subsidence monitoring and surface mitigation measures shall be constituted and continuous monitoring & implementation of mitigation measures be carried out.
 - vi. Thorough inspection of the mine lease area for any cracks developed at the surface due to mining activities below ground shall be carried out to prevent inrush of water in the mine.
 - vii. Native tree species shall be selected and planted over areas affected by subsidence.
 - viii. The project proponent shall make necessary alternative arrangements, if grazing land is involved in core zone, in consultation with the State government to provide alternate areas for livestock grazing, if any. In this context, the project proponent shall implement the directions of Hon'ble Supreme Court with regard to acquiring grazing land.

VII. Green Belt

- i. The project proponent shall take all precautionary measures during mining operation for conservation and protection of endangered flora/fauna, if any, spotted/reported in the study area. Action plan, in this regard, if any, shall be prepared and implemented in consultation with the State Forest and Wildlife Department.
- ii. Greenbelt, consisting of three-tier plantation, of width not less than 7.5 m, shall be developed all along the mine lease area in a phased manner. The green belt comprising of a mix of native species shall be developed all along the major approach roads/ coal transportation roads.

VIII. Public hearing and Human health issues

- i. Adequate illumination shall be ensured in all mine locations (as per DGMS standards) and monitored.
- ii. The Project Proponent shall undertake Occupational Health survey for initial and Periodical medical examination of the workers engaged in the Project and maintain records accordingly as per the provisions of the Mines Rules, 1955 and DGMS Circulars. Besides carrying out regular periodic health check-up of their workers, 20% of the workers engaged in active mining operations shall be subjected to health check-up for occupational diseases and hearing impairment, if any.
- iii. Personnel (including outsourcing employees) working in dusty areas shall wear

- protective respiratory devices and shall also be provided with adequate training and information on safety and health aspects.
- iv. Skill training as per safety norms specified by DGMS shall be provided to all workmen including the outsourcing employees to ensure high safety standards in mines.
 - v. Effective arrangement shall be made to provide and maintain at suitable points conveniently situated, a sufficient supply of drinking water for all the persons employed.
 - vi. Implementation of Action Plan on the issues raised during the Public Hearing shall be ensured. The Project Proponent shall undertake all the tasks as per the Action Plan submitted with budgetary provisions during the Public Hearing. Land oustees shall be compensated as per the norms laid out R&R Policy of the Company/ or the National R&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 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'.

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 report 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 environment clearance portal.
 - v. The project proponent shall submit the environmental statement for each financial year in Form-V to the concerned State Pollution Control Board as prescribed under the Environment(Protection) Rules, 1986, as amended subsequently and put on the website of the company.
 - vi. The project authorities shall inform to the Regional Office of the MOEFCC regarding commencement of mining operations.
 - vii. The project authorities must strictly adhere to the stipulations made by the State Pollution Control Board and the State Government.
 - viii. The project proponent shall abide by all the commitments and recommendations made in the EIA/EMP report, commitment made during Public Hearing and also that during their presentation to the Expert Appraisal Committee.
 - ix. No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment, Forests and Climate Change (MoEF&CC).
 - x. Concealing factual data or submission of false/fabricated data may result in revocation of this environmental clearance and attract action under the provisions of Environment (Protection) Act, 1986.
 - xi. The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.
 - xii. The Ministry reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner shall implement these conditions.
 - xiii. The Regional Office of this Ministry shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data / information/monitoring reports.
 - xiv. The above conditions shall be enforced, inter-alia under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 and the Public Liability Insurance Act, 1991 along with their amendments and Rules and any other orders

passed by the Hon'ble Supreme Court of India / High Courts and any other Court of Law relating to the subject matter.

- xv. Any appeal against this EC shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.

Standard EC Conditions for Coal Washery Project

I. Statutory compliance:

- (i) The project proponent shall obtain forest clearance under the provisions of Forest (Conservation) Act, 1986, in case of the diversion of forest land for non-forest purpose involved in the project.
- (ii) The project proponent shall obtain clearance from the National Board for Wildlife, if applicable.
- (iii) The project proponent shall prepare a Site-Specific Conservation Plan / Wildlife Management Plan and approved by the Chief Wildlife Warden. The recommendations of the approved Site-Specific Conservation Plan / Wildlife Management Plan shall be implemented in consultation with the State Forest Department. The implementation report shall be furnished along with the six-monthly compliance report. (in case of the presence of schedule-I species in the study area)
- (iv) The project proponent shall obtain Consent to Establish / Operate under the provisions of Air (Prevention & Control of Pollution) Act, 1981 and the Water (Prevention & Control of Pollution) Act, 1974 from the concerned State pollution Control Board/ Committee.
- (v) The project proponent shall obtain the necessary permission from the Central Ground Water Authority.
- (vi) Solid waste/hazardous waste generated in the washery needs to be addressed in accordance to the Solid Waste Management Rules, 2016 / Hazardous & Other Waste Management Rules, 2016.
- (vii) Coal beneficiation practices shall be carried out under strict adherence to provisions of the Factories Act, 1957 and subordinate legislations made there under.

II. Air quality monitoring and preservation

- i. Adequate ambient air quality monitoring stations shall be established in the core zone as well as in the buffer zone for monitoring of pollutants, namely particulates, SO₂ and 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. carried out at least once in six months.
- ii. 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.

- iii. Transportation of coal by road shall be carried out by covered trucks/conveyors. The transportation of clean coal and rejects shall be by rail with wagon loading through silo. Effective measures such as regular water sprinkling shall be carried out in critical areas prone to air pollution and having high levels of particulates such as roads, belt conveyors, loading/unloading and transfer points. Fugitive dust emissions from all sources shall be controlled at source. It shall be ensured that the ambient air quality parameters conform to the norms prescribed by the Central/State Pollution Control Board
- iv. All approach roads shall be black topped and internal roads shall be concreted. The roads shall be regularly cleaned. Coal transportation shall be carried out by covered trucks.
- v. Covered trucks shall be engaged for mineral transportation outside the washery upto 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-IA.11 (M) dated 27.05.2009 issued by Ministry of Environment, Forest and Climate Change shall also be referred in this regard for compliance.
- iii. Industrial waste water shall be properly collected and treated so as to conform to the standards prescribed under the Environment (Protection) Act, 1986 and the Rules made there under, and as amended from time to time.
- iv. The project proponent shall not alter major water channels around the site. Appropriate embankment shall be provided along the side of the river/nallah flowing near or adjacent to the washery. The embankment constructed along the river/nallah boundary shall be

of suitable dimensions and critical patches shall be strengthened by stone pitching on the river front 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 runoff 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.

xii. 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.

xiii. 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 m width 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/transfer points and also along internal roads/main approach roads.
- ii. The project proponent shall make necessary alternative arrangements, if grazing land is involved in core zone, in consultation with the State government to provide alternate areas for livestock grazing, if any. In this context, the project proponent shall implement the directions of Hon'ble Supreme Court with regard to acquiring grazing land.

VII. Public hearing and Human health issues

- i. Adequate illumination shall be ensured in all mine locations (as per DGMS standards) and monitored weekly. The report on the same shall be submitted to this ministry & its RO on six-monthly basis.
- 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'.

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, NOx(ambient levels) or critical sectoral parameters, indicated for the projects and display the same at a convenient location for disclosure to the public and put on the website of the company.
- v. The project proponent shall submit six-monthly reports on the status of the compliance of the stipulated environmental conditions on the website of the ministry of Environment, Forest and Climate Change at environment clearance portal.

- 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 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 a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.

Generic ToR for coal washery

- i. Siting of washery is critical considering to its environmental impacts. Preference should be given to the site located at pit head; in case such a site is not available, the site should be as close to the pit head as possible and coal should be transported from mine to the washery preferably through closed conveyer belt to avoid air pollution.
- ii. The washery shall not be located in eco-sensitive zones areas.
- iii. The washery should have a closed system and zero discharge. The storm drainage should be treated in settling ponds before discharging into rivers/streams/water bodies.
- iv. A thick Green belt of about 50 m width should be developed surrounding the washery.
- v. A brief description of the plant alongwith a layout, the specific technology used and the source of coal should be provided.
- vi. The EIA-EMP 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. alongwith the comments of the Chief Wildlife Warden of the State Govt.
- viii. Data of one-season (non-monsoon) primary- base-line data on environmental quality of air (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 transported 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 conveyor 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-II013/25/2014-IA.I dated 11th August, 2014 to be followed with regard to CSR activities.

xv. Details of Public Hearing, Notice(s) issued in newspapers, proceedings/minutes of Public Hearing, points raised by the general public and response/commitments made by the proponent along with the Action Plan and budgetary provisions be submitted in tabular form. If the Public Hearing is in the regional language, an authenticated English translation of the same should be provided. Status of any litigations/ court cases filed/pending, if any, against the project should be mentioned in EIA.

xvi. Analysis of samples indicating the following be submitted:

Characteristics of coal prior to washing (this includes grade of coal, other characteristics of ash, S and heavy levels of metals such as Hg, As, Pb, Cr etc).

Characteristics and quantum of coal after washing. Characteristics and quantum of coal rejects.

xvii. Details of management/disposal/use of coal rejects should be provided. The rejects should be used in TPP located close to the washery as far as possible. If TPP is within a reasonable distance (10 km), transportation should be by conveyor belt. If it is far away, the transportation should be by rail as far as possible.

xviii. Copies of MOU/Agreement with linkages (for stand-alone washery) for the capacity for which EC is being sought should be submitted.

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.

ANNEXURE-V

GENERIC TOR FOR AN OPENCAST COALMINE PROJECT for EC

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

/modification of drainage and their realignment, construction of embankment etc. should also be shown on the map as per the approval of Irrigation and flood control Department of the concerned state.

(x) Similarly if the project involves diversion of any road/railway line passing through the

ML/project area, the proposed route of diversion and its realignment should be shown in the map along with the status of the approval of the competent authority.

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

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

Sl. No.	Landuse	Within ML area (ha)	Outside ML area (ha)	Total
1.	Agricultural land			
2.	Forest land			
3.	Wasteland			
4.	Grazing land			
5.	Surface water bodies			
6.	Settlements			
7.	Others (specify)			
	TOTAL			

(xii) Break-up of lease/project area as per mining plan should be provided.

(xiii) Impact of changes in the land use due to the project if the land is predominantly agricultural land/forestland/grazing land, should be provided.

(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 Plans 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 formechanized 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, andtheir 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 onslope 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 adjacentarea should be shown.

(xxviii) Efforts be made for maximising progressive internal dumping of O.B., sequentialmining, 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, figuresand in the tabular form as per the format of MOEFCC given below) and selection of species (native) based on original survey/land-use should be given.

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

S.N	Land use Category	Present (1 st Year)	5 th Yea r	10 th Year	20 th Yea r	24 th Yea r (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.

(xliii) Submission of sample test analysis of Characteristics of coal: This should include details on grade of coal and other characteristics such as ash content, S and heavy metals including levels of Hg, As, Pb, Cr etc.

(xliv) Copy of clearances/approvals such as Forestry clearances, Mining Plan Approval, mine closer plan approval. NOC from Flood and Irrigation Dept. (if req.), etc. wherever applicable.

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

TOTAL ML/PROJE CTAREA (ha)	TOTAL FORES TL AND (ha)	Date of FC	Extent of forestla nd	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			

GENERIC TORs FOR AN UNDERGROUND COALMINE PROJECT

(i) An EIA-EMP Report shall be prepared for MTPA rated capacity in an ML/project area

of.....ha based on the generic structure specified in Appendix III of the EIA Notification, 2006.

(ii) An EIA-EMP Report would be prepared for MTPA rated capacity to cover the impacts

and environment management plan for the project specific activities on the environment of the region, and the environmental quality encompassing air, water, land, biotic community, etc. through collection of data and information, generation of data on impacts including prediction modeling for..... MTPA of coal production based on approved project/Mining Plan for.....MTPA. Baseline data collection can be for any season (three months) except monsoon.

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

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

(v) A contour map showing the area drainage of the core zone and 25 km of the study area (where the water courses of the core zone ultimately join the major rivers/streams outside the lease/project area) should also be clearly indicated in the separate map.

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

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

S.N	ML/Project Land use	Area under Surface Rights(ha)	Area Under Mining Rights (ha)	Area under Both (ha)
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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 break up of water requirement as per different activities in the mining operations, including use of water for sand stowing should be given separately. Source of water for use in mine, sanction of the Competent Authority in the State Govt. and impacts vis-à-vis the competing users should be provided.
- (xvii) Impact of choice of mining method, technology, selected use of machinery and impact on air quality, mineral transportation, coal handling & storage/stockyard, etc, Impact of blasting, noise and vibrations should be provided.
- (xviii) Impacts of mineral transportation within the mining area and outside the lease/project along with flow-chart indicating the specific areas generating fugitive emissions should be provided. Impacts of transportation, handling, transfer of mineral and waste on air quality, generation of effluents from workshop etc, management plan for maintenance of HEMM and other machinery/equipment should be given. Details of various facilities such as rest areas and canteen for workers and effluents/pollution load emanating from these activities should also be provided.
- (xix) Effort be made to reduce/eliminate road transport of coal inside and outside mine and for mechanized loading of coal through CHP/ Silo into wagons and trucks/tippers.
- (xx) Details of various facilities to be provided to the workers in terms of parking, rest areas and canteen, and effluents/pollution load resulting from these activities should also be given.

- (xxi) The number and efficiency of mobile/static water sprinkling system along the main mineral transportation road inside the mine, approach roads to the mine/stockyard/siding, and also the frequency of their use in impacting air quality should be provided.
- (xxii) Impacts of CHP, if any on air and water quality should be given. A flow chart showing water balance along with the details of zero discharge should be provided.
- (xxiii) Conceptual Final Mine Closure Plan and post mining land use and restoration of land/habitat to the pre-mining status should be provided. A Plan for the ecological restoration of the mined out area and post mining land use should be prepared with detailed cost provisions. Impact and management of wastes and issues of re-handling (wherever applicable) and backfilling and progressive mine closure and reclamation should be furnished.
- (xxiv) Greenbelt development should be undertaken particularly around the transport route and CHP. Baseline data on the health of the population in the impact zone and measures for occupational health and safety of the personnel and manpower for the mine should be submitted.
- (xxv) Cost of EMP (capital and recurring) should be included in the project cost and for progressive and final mine closure plan.
- (xxvi) Details of R&R. Detailed project specific R&R Plan with data on the existing socio-economic status of the population (including tribals, SC/ST, BPL families) found in the study area and broad plan for resettlement of the displaced population, site for the resettlement colony, alternate livelihood concerns/employment for the displaced people, civic and housing amenities being offered, etc and costs along with the schedule of the implementation of the R&R Plan should be given.
- (xxvii) CSR Plan along with details of villages and specific budgetary provisions (capital and recurring) for specific activities over the life of the project should be given.
- (xxviii) Corporate Environment Responsibility:
- 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.

(xxxix) Status of any litigations/ court cases filed/pending on the project should be provided.

(xl) 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.

(xli) 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 /Proj ect (ha)	ML Ar ea	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 diversio n of forest land
			If more than one provide details of each FC			

GENERIC TORs FOR AN OPENCAST-CUM-UNDERGROUND COALMINE PROJECT

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

(ii) An EIA-EMP Report would be prepared for MTPA rated capacity to cover the impacts

and environment management plan for the project specific activities on the environment of the region, and the environmental quality encompassing air, water, land, biotic community, etc. through collection of data and information, generation of data on impacts including prediction modeling for..... MTPA of coal production based on approved project/Mining Plan for.....MTPA. Baseline data collection can be for any season (three months) except monsoon.

(iii) The ToRs prescribed for both opencast and underground mining are applicable for opencast – cum-underground mining.

LIST OF PARTICIPANTS OF EAC ((COAL) IN 18th OF HELD DURING 2nd SEPTEMBER, 2021 THROUGH VIDEO CONFERENCING

1.	Shri G.P Kundargi		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
			P
7.	Dr. Unmesh Patnaik	-	Member
			A
8.	Shri Prasant Kumar Mohapatra	-	Member
			A
9.	Professor S S Rai, Representative of IIT/ISM Dhanbad	-	Member
			P
10.	Shri M.P Singh, Representative of CEA	-	Member
			P
11.	Dr. Santosh Kumar Hampannavar	-	Member
			P
12.	Prof R.K. Giri Representative of IMD	-	Member
			A
13.	Dr. Nazimuddin Representative of Central Pollution Control Board	-	Member
			A
14.	Shri Lalit Bokolia, Director, MoEFCC	-	Member Secretary
			P