MINUTES OF 17th MEETING OF THE EXPERT APPRAISAL COMMITTEE FOR ENVIRONMENT APPRAISAL OF COAL MINING PROJECTS HELD ON 09 -10TH AUGUST, 2021 THROUGH VIDEO CONFERENCE.

Monday, 09th August, 2021 and Tuesday-10th August, 2021

Confirmation of the Minutes of 16th Meeting of the EAC (Coal) held on 22nd, July, 2021: The minutes of the 16th meeting of the EAC held during 22nd, July, 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 17th meeting of the Expert Appraisal Committee (EAC) for coal mining projects was held on 09th -10th August, 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. 17.1

Expansion of Jawahar Khani– 5 Opencast coal mine project from production capacity of 2.50 MTPA to 3.50 MTPA in existing project area of 490.14 ha of M/s The Singareni Collieries Company Limited (SCCL) located at village Sudimalla & Usirikayapalli, Mandal Yellandu, District Bhadradri Kothagudem (Telangana) - For Environment Clearance – reg.

[Online Proposal No. IA/TG/CMIN/212245/2018; File no. 23-257/2018- IA(III)]

17.1.1 The proposal is for Environment Clearance for Expansion of Jawahar Khani– 5 Opencast coal mine project from production capacity of 2.50 MTPA to 3.50 MTPA in existing project area of 490.14 ha of M/s The Singareni Collieries Company Limited (SCCL) located at village Sudimalla & Usirikayapalli, Mandal Yellandu, District Bhadradri Kothagudem (Telangana).

17.1.2 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 65C/6 and is bounded by the geographical coordinates ranging from latitude 17033’59” to 17035’25” N and longitudes 80018’51” to 80019’51” E.

(ii) Coal linkage of the project is proposed as per the Fuel Supply Agreement (FSA).

(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, Total employment was 333 persons will be provided from the project.

(vi) The project is reported to be beneficial in terms of socio-economics and improving living standards.

(vii) Earlier, the environment clearance to the project was obtained under EIA Notification 2006 vide Ministry's letter No J-11015/31/2013-IA-II (M) dated 3rd March, 2016 for 2.50 MTPA in mine lease area of 514.95 ha.

(viii) 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.

(ix) Total mining lease area as per block allotment is 490.14 ha. Mining Plan (Including Progressive Mine Closure Plan) has been approved by the 38011/12/2017-PCA, Approved on 12.09.2019 by MoC.

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

S. No	Land Use	With ML Area (Hectare)	Outside MLArea (Hectare)	Total
1	Water Bodies	3.42	NIL	3.42
2	Agriculture Land	18.23		18.23
3	Barren	208.62		208.62
4	Forest Land	--		--
5	Road	7.57		7.57
6	Grazing Land	225.75		225.75
7	Others (Township)	26.55		26.55
	Total	490.14		490.14

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

S. No.	Land Use	Total area	Plantation	Water Body	PublicUse
1	External OB dumps	195.56	174.59	20.97	
2	Top Soil Storage	17.32	17.32		
3	Internal OB dumps	42.27	42.27		
4	Excavation / quarry	107.68	--	107.68	
5	Road Diversion	7.41			7.41
6	Safe barrier, roads, drainage around quarry and external dump yard.	101.72	74.94	8.82	17.96

7	Road & Infrastructure area	18.18	18.18		
	Total	**490.14**	**327.30**	**137.47**	**25.37**

(xi) Total geological reserve reported in the mine lease area is 26.30 MT with 23.67 MT, mineable reserves, 22.49 MT are available for extraction. Percent of extractionis 85.5%.

(xii) One seam (Queen Seam) with thickness ranging from 5.79 to 20.23m is workable. Grade of coal is G-15, stripping ratio 3.98, average gradient is 1 in 7.

(xiii) Method of mining operations envisages by Shovel dumper combination method

(xiv) Life of mine is 1 year (2021-22).

(xv) The project has 1 external OB dumps in an area of 195.56 ha with 60 m height and 72.0 Mm3 of OB. 1 internal OB in an area of 42.27 ha with 37.25 Mm3 of OB is envisaged in the project.

(xvi) Total quarry area is 490.14 ha out of which backfilling will be done in 251.49 ha while final mine void will be created in an area of 107.68 ha with a depth of 120 m.

(xvii) Transportation of coal has been proposed as from quarry to pit head by Trucks/Dumpers, from surface to siding (pit head CHP to wharf loading, YCHP) by Road and from siding (YCHP) to customers by rail.

(xviii) Reclamation Plan in an area of 327.30 ha, comprising of 174.59 ha of external dump, 42.27 ha of internal dump and 92.26 ha of green belt. In addition to this, an area of 18.18 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 fall within 10 kmboundary of the project.

(xxi) The ground water level has been reported to be varying between 3.30 m to 9.89mduring pre-monsoon and between 1.55 m to 7.95 m during post-monsoon. Total water requirement for the project is 2350 KLD.

(xxii) Ground Water clearance was obtaining vide Lr.No.12674/Hg.II(1)/06, dt:10.04.07.

(xxiii) Public hearing for the project of 3.50 MTPA capacity in an area of 490.14 ha was Conducted on 03.03.2021 at the premises of Telangana Tribal Welfare Residential School (Girls) under the Chairmanship of the Additional collector in Bhardradri Kothagudem district and 19.03.2021 at Telangana Tribal Welfare Residential School (Boys) under the Chairmanship of the District Revenue Officer & Additional District Maqistrate, Khammam District, Major issues raised in the public hearing and appropriate action to address the issues raised in the Public Hearing have already been taken / proposed to be taken.

(xxiv) 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.

(xxv) Regular monitoring of ambient air quality is being carried out on fortnightly basis. The documented report is submitted to TSPCB and also to MoEF&CC along withhalf yearly EC compliance report. In general, the results of ambient air quality monitoring data were found within prescribed limits.

(xxvi) No court cases are pending. Violation cases are pending against the project of the PP.

(xxvii) The project was involved violation of the EIA Notification, 2006 and Amendment issued there under. The coal production from the mine was started in the year 2012-13. Excess production of coal from the sanctioned capacity has been realized since 2015-16.

(xxviii)R&R, not applicable, since this project is an operating project no new land is required. Hence the project does not involve project affected families.

(xxix) Total cost of the project is Rs. 131.20 crores, Cost of production is Rs. 1063 /- per tonne. CSR cost is spending 2% of its average annual net profit, R&R cost is Rs 65.38 crores (completed). Environment Management Cost is Rs.70.85 crores.

(xxx) Past Production details comparison with existing EC.

Sl. No.	Year	EC capacity(MTPA)	Actual Coal Production in MTPA	Excess Production more than EC capacity (MTPA)
1.	2012-13	2.00	1.47	0
2.	2013-14	2.50	2.07	0
3.	2014-15	2.50	1.39	0
4.	2015-16	2.50	2.51	+0.01
5.	2016-17	2.50	2.69	+0.19
6.	2017-18	2.50	2.96	+0.46
7.	2018-19	2.50	3.30	+0.80
8.	2019-20	2.50	3.35	+0.85
Total				**2.31**

17.1.3 The EAC during deliberations noted the followings:

(i) The proposal is for Environment Clearance for Expansion of Jawahar Khani– 5 Opencast coal mine project from production capacity of 2.50 MTPA to 3.50 MTPA in existing project area of 490.14 ha.

(ii) Earlier, the environment clearance to the project was obtained under EIA Notification, 2006 vide Ministry's letter No. J-11015/31/2013-IA.II(M) dated 18th May, 2009 for 2 MTPA capacity. Further expansion was granted on 03.03.2016 (under 7(ii) clause) for Expansion of Jawahar Khani– 5 Opencast coal mine project from production capacity of 2.00 MTPA to 2.50 MTPA in existing project area of 514.95 ha village Sudimalla & Usirikayapalli, Mandal

Yellandu, District Bhadradri Kothagudem (Telangana) of M/s The Singareni Collieries Company Limited (SCCL).

(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 1st March 2019 to 31st 2019 covering one season (i.e. Summer Season). Ground Level Concentration (GLC) values for PM_{10}, $PM_{2.5}$, SOx and NOx as carried out in the prediction made by AERMOD software for peak production to assess the impact of mining.

- Air Quality Monitoring: Number of sampling locations monitored were 10. Maximum and Minimum PM_{10} concentrations at JK 5 OC Exp mine were observed to be in range of 168 $\mu g/m^3$ to 151 $\mu g/m^3$, $PM_{2.5}$ in 67.4 $\mu g/m^3$ to 54.3 $\mu g/m^3$, SO_2 in 12.8 $\mu g/m^3$ to 15.7 $\mu g/m^3$ and NO_2 was in range of 17.5 $\mu g/m^3$ to 24.6 g/m^3. CO Concentration was below detection limit at the location identified in core zone.
- The incremental increase in the values were projected to be 2.75 $\mu g/m^3$ for PM_{10}, 0.49 $\mu g/m^3$ for $PM_{2.5}$, 0.27 $\mu g/m^3$ for SO_2, and 0.02 $\mu g/m^3$ for NOx. The depicted value of total GLC reported were 170.75 $\mu g/m^3$, 67.89 $\mu g/m^3$, 15.97 $\mu g/m^3$, 24.62 $\mu g/m^3$ respectively. Though the value total GLC was under the prescribed Standards.
- Surface water quality: Number of sampling location monitored were 05. The result indicates that the maximum and minimum values of BOD ranges between 2.0 mg/l to 3.0 mg/l, DO ranged between 5.9 mg/l to 6.5 mg/l, COD ranged between 18 mg/l to 22 mg/l and pH ranged between 6.5 to 7.5.

(v) Total mining lease area is 490 Ha. Ministry of Coal vide its letter dated 12th September, 2019 has approved Mining Plan (including Mine Closure Plan)

(vi) The major issues raised during public consultation conducted on 03.03.2021 were of employment, roads conditions, water supply, medical camps, to improve drainage pattern, air pollution, wildlife protections etc which were addressed by the PP adequately.

(vii) No forest land is involved in the project for diversion of non-forestry activity.

17.1.4 *The EAC, after detailed deliberation observed that EIA-EMP to project has been prepared based on the reported violation in the years from 2015-16 to 2019 -20 (excess production of 2.3 MTPA) beyond EC limits (2.5 MTPA). EAC was informed the reason of overproduction due to sudden increase in the demand and power shortage.*

Further, it was informed that life of the mine is only 1 year and accordingly mine closure activity will be conducted. EAC reviewed the certified compliance report of Ministry's IRO dated 1st January, 2020 (obtained after grant of ToR) and found there are non-compliances and partial compliances of EC conditions apart from overproduction during the year 2015-19, important condition like; three tier plantation has not been implemented along the roads, No STP construction

in the colony, installation of CAAQMS, non-implementation of bag-filters for control of air pollution at crushing site, no need-based assessment carried out for socio-economic and welfare measures under CSR activity and no set up of environment cell. In response, PP however, submitted that CAAQMS has been installed after RO compliance report and also STP has also been established in one of the colonies of project proponent. EAC emphasised to submit the CTO of STP and data of newly established CAAQMS. As per the specific condition mentioned in previous EC that the transportation to be done by the Rail and it has not been complied, PP informed that they are transporting the coal via road for 4-5 km and then by Rail.

The EAC also observed inconsistency in water quality monitoring data and its correlation with other parameter particularly in BOD value observed in ponds and is required to be rechecked. EAC also noted lack of commitment of PP in supplying drinking water to nearby villages, as one issue raised in public consultation. EAC advised PP to at least take the charge of service and maintenance of the RO plant already installed with dedicated pipe line to user of respective villages. EAC asked PP to strengthen the Toe wall as being just made of stones just piled up, not cemented which may lead to surface run off during rainy season. EAC inquired about the cracks observed in the houses of nearby villages as also reported by municipal chairman. It was informed that drilling and blasting is being conducted as per the DGMS rules. EAC recommended them to make committee for actual survey and status report. EAC also suggested them to provide proper skill development training programmes instead of workshops

PP presented the Damage assessment report and its remedial action plan for the violation committed by PP and it was asked to revise the report as many shortcomings were found by EAC. The EAC also asked consultant and PP to revise the calculations as yearly production vis-à-vis profit obtained during violation period. Also the estimate for ground water extraction and its related calculation should be revised as per CGWA revised guidelines of 30th September 2020 notification. Excess water during monsoon was not included which may lead to excess seepage, even the surface runoff coefficient considered in the report was 0.8 which is for roof and EAC suggested that it should be around 0.3. 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 the same road which villagers were using 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:*
   a) *The PP shall mention the total quantity of excavation viz OB/IB/SB/Top soil apart from the proposed quantity of coaL@3.5 MTPA.*
   b) *Air Pollution Damage: Violated quantity shall be revised for 2015/16 in accordance with the EC granted for 2.5 MTPA from 3/3/2016 and prior EC was for 2.0 MTPA till 2nd march on prorata basis. Therefore, the damage shall be revised accordingly.*
   c) *Net profit accrual shall be revised besides revising the amount to be allocated to CRAP.*
   d) *The scheme of diversion of First order nallahs existed in the ML prior to commencement of mining shall be submitted, considering the catchment, flow adequacy, etc.*
   e) *Water balance during monsoon and the relevant discharge qty from mine shall be submitted.*
   f) *Damage cost for GW abstraction considering the above shall be revised on prorata basis and the rate shall be revised as per CGWA Notification dated 24/09/20.*
   g) *The activities enumerated under Remediation, NRAP and CRAP shall be revised based on the need based survey and further shall be specific, monitorable besides revising the target period to two years.*

(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 and widening of road used for transportation of coal along the village.*

(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 certified compliance report of EC dated 18th May, 2009 from Ministry's IRO*

(x) *PP shall submit NOC for Ground water extraction from 2.0 MTPA to 2.5 MTPA based on EC dated 3rd March, 2016 since earlier NOC was granted on 10th April, 2007*

(xi) *PP shall recheck and re-monitor the water quality of surface water in vicinity of the project area by other consultant (third party).*

(xii) *Action plan for commitment made on the issues raised during public hearing in both the districts.*

(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 raod to them with proper budgetary implementation and time bound action of 2 years was to be followed*

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

Agenda No. 17.2

Capacity Enhancement of Coal Washery from 0.96 MTPA to 5.0 MTPA with increase in Land Area from 8.10 ha to 14.5 ha within existing Plant of M/s Bhatia Energy Minerals Private Limited Located at Village Chhote Dumarpali, Tehsil Kharsia, District Raigarh (Chhattisgarh) - For Environment Clearance – reg.

[Online Proposal No. IA/CG/CMIN/221498/2019 File No. J- 11015/71/2019-IA II (M)]

17.2.1 The proposal is for Production Capacity Enhancement of Coal Washery from 0.96 MTPA to 5.0 MTPA with increase in Land Area from 8.10 ha to 14.5 ha within existing Plant of M/s Bhatia Energy Minerals Private Limited Located at Village Chhote Dumarpali, Tehsil Kharsia, District Raigarh, (Chhattisgarh).

17.2.2 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: 64 N/4, N/8,64 O/1, O/5 and is bounded by the geographical coordinates ranging from 22°09'9.59"-22°00'26.53" N to 83°09'36.63"-82°10.0'46.00" E.

(ii) Sources: Raw coal will be sourced from Raigarh & Korba mines of SECL and neighbouring mines of MCL (approx.25-100 km). Transportation of raw coal from mines to washery site will be by tipping trucks (Chhal-16 km, Baroud mine (50 km) via existing SECL/MCL coal transportation through road/rail. Washed coal will be transported through private railway siding at about 0.70 km from near Robertson station.

(iii) No joint venture has been formed.

(iv) The project site does not fall in the Critically Polluted Area (CPA), where MoEF&CC has imposed moratorium on grant of environment clearance vide its OM dated 13th January, 2010.

(v) The project will provide employment - Existing manpower is about 110 persons. The proposed manpower is about is 270 persons. The total manpower after expansion is about 380 persons.

(vi) 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) Certified EC Compliance obtained from Regional Office, Nagpur vide ref. no. 18-D-14/2012(SEAC)/7496, dated 20th November, 2020.

(viii) Consent to operate renewed by CECB, Raipur vide letter no: 6055/TS/CECB/2018 dated 02/11/2018.

(ix) MoEF&CC granted TOR vide its letter no: No. J-11015/71/2019-IA-II (M) dated 08.01.2020 The existing unit of 0.96 MTPA was installed in an area of 8.10 ha. And the land requirement for proposed 4.04 ha is about 6.40 ha. The total area is about 14.50 ha. The entire land is under possession of M/s. BEMPL.

(x) Out of proposed capacity enhancement 1.4 MTPA will be within the existing plant premises. 2.64 MTPA will be on extra land which is appurtenant to existing plant premised. No additional land acquisition involved.

(xi) The land usage pattern of the project is as follows:

Landuse Requirement

S. No.	Description	Existing 0.96 MTPA	Proposed 4.04 MTPA	Total*
1	Land for washery	2.00	4.40	6.40
2	Land for reject disposal area	1.05	0.70	1.75
3	Land for greenbelt development	2.67	0.30	2.97
4	Land for coal storage yard and truck tripling system yard	1.10	1.00	2.10
5	Land for raw water reservoir	0.40	0.00	0.40
6	Land for fabrication / construction yard etc	0.50	0.00	0.50
7	Others	0.38	0.00	0.38
Sub-total		8.10	6.40	14.50
Total		14.50		

**Units in ha*

(xii) Transportation of raw coal from mines to washery site will be by tipping trucks (Chhal-16 km, Baroud mine (50 km) via existing SECL/MCL coal transportation through road/rail. Washed coal will be transported through private railway siding at about 0.70 km from near Robertson station.

(xiii) There are no national parks, wild life sanctuaries and eco-sensitive zones in 10 km Study area.

(xiv) Water allocation obtained from State Water Resource Department vide letter no.575/F 4 209/S-2/31/OJF/12 dated 12.02.2019. In principle letter obtained for additional water requirement.

(xv) Public Hearing for proposed capacity enhancement of coal washery from 0.96 MTPA to 5.0 MTPA Premises of pre secondary (middle) school, Village Nawagoan, Tehsil Kharsia, District Raigarh (C.G) under the Chairman Ship of District Collector. Major issues raised in the public hearing are employment, CSR and Environment protection. Appropriate action to address the issues raised in the Public Hearing have already been proposed. Proposed budget on CSR activities including budget on activities proposed in response to public hearing will be about Rs. 37 lakhs. Pollution control measures will be taken with an allotted budget of Rs. 47 lakhs.

(xvi) 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.

(xvii) Ambient air quality monitoring carried out during study period 1st December 2019 to 29th February 2020. PM_{10}:30.6 – 69.1 μg/m^3; $PM_{2.5}$:18.6 -34.9 μg/m^3; SO_2 :10.3-19.3 μg/m^3; NO_2 :12.1-23.6 μg/m^3; CO :193 -339 μg/m^3. The concentrations of $PM_{2.5}$, PM_{10}, SO_2, NO_2, O_3, CO, NH_3, Pb, BaP, As, Ni and C_6H_6 are observed to be well within the NAAQ standards prescribed by Central Pollution Control Board (CPCB) for industrial and rural /residential zone.

(xviii) No court cases, violation cases are pending against the project.

(xix) The project does not involve violation of the EIA Notification, 2006 and amendment issued thereunder.

(xx) Total capital Cost: The estimated cost of the proposed expansion project is about 70 crores. The cost of existing project is about 40 crores. Total cost after expansion will be about Rs. 110 crores A budget of about Rs.47 lakhs per annum will also be earmarked for environmental protection including monitoring activities

17.2.3 The EAC during deliberations noted the following:

- The proposal is for Capacity Enhancement of Coal Washery from 0.96 MTPA to 5.0 MTPA with increase in Land Area from 8.10 ha to 14.5 ha within existing Plant of M/s Bhatia Energy Minerals Private Limited Located at Village Chhote Dumarpali, Tehsil Kharsia, District Raigarh, (Chhattisgarh).

- Earlier, the environment clearance to the project was obtained under EIA Notification, 2006 by State Level Environmental Impact Assessment Authority, Raipur, Chhattisgarh vide letter no: 140/SEIAA-CG/EC/Coal Wash/RGH/225/10 Raipur, dated 28/08/2012.

- Terms of Reference for the project was granted by Ministry on: No. J-11015/71/2019-IA-II (M) dated 08.01.2020.

- Wild life conservation plan for schedule I species have been incorporated in EIA report with allocated fund.

- The baseline data has been generated for three months i.e. from 1st December 2019 to 29th February 2020 covering one season (i.e. Winter Season). Number of sampling location monitored were 09. The result indicates that the maximum and minimum values of PM_{10} are in the range of 69.1 µg/m3 to 30.6 µg/m3, whereas the $PM_{2.5}$ are in the range of 34.9 µg/m^3 to 18.6 µg/m^3. The SO_2 concentrations within the study area are in the range of 19.3 µg/m^3 to 10.3 µg/m^3 and the NOx are in the range of 23.6 µg/m3 to 12.1 µg/m^3. The observed pollutant levels were compared with CPCB National Ambient Air Quality Standards and stated to be within the Standard limit.

- The incremental increase in the values were projected to be 8.35 µg/m^3 for PM_{10}, 2.58 µg/m^3 for $PM_{2.5}$, 0.01 µg/m^3 for SO_2, and 3.5 µg/m^3 for NOx. The depicted value of total GLC reported were 77.45 µg/m^3, 37.48 µg/m^3, 22 µg/m^3, 53.62 µg/m3 respectively. Though the value total GLC was under the prescribed Standards.

- Surface water quality: Number of sampling location monitored were 02. The result indicates that the maximum and minimum values of BOD ranges between 3.0 mg/l to 4.0 mg/l, DO ranged between 5.4 mg/l to 5.6 mg/l, COD ranged between 20 mg/l to 30 mg/l and pH ranged between 6.91 to 7.21.

- Chhattisgarh Environment Conservation Board has conducted Public Hearing at Ground Govt Pre secondary (Middle) School Premises, Village Nawagoan, Tehsil, Kharsia, District Raigarh (C.G.) on 30/06/2021. The advertisements were published in newspaper namely "Navabharat" and English newspaper "Times of India" dated 29.05.2021. The air pollution was the major issue raised and PP ensure that to minimize the dust, continuous water sprinkling is practised.

- Certified Compliance report from Ministry's Integrated Regional Office, Raipur has been submitted vide IRO's letter dated 20th November, 2020. All the EC conditions are being complied as per report with some having partial compliance.
- Dantaar stream is flowing about 700 mts away in east direction from the project site. Water allocation for existing unit of 0.96 MTPA obtained from State water resources department vide letter no: 575/F4-209/S-2/31/A/12 dated:12.02.2019

17.2.4 *The EAC after deliberations observed that the proposal is for expansion of existing coal washery of 0.96 MTPA production capacity to 5.0 MTPA. EAC desired that PP should have obtained more land area since it was understood that area may be in sufficient for 5 MTPA capacity and 33% green belt plantation. During the discussion, PP justified the land area and committed for developing 33% green belt. PP demonstrated that the capacity expansion of coal washery will be carried out in two phases, Phase-I: 1.4 MTPA with heavy media bath coal processing unit attached with existing washery of 0.96 MTPA; and Phase-II: 2.64 MTPA with heavy media cyclone based coal processing unit. Based on deliberations, EAC* ***recommends*** *the proposal for grant of Environment clearance to Capacity Enhancement of Coal Washery from 0.96 MTPA to 5.0 MTPA with increase in Land Area from 8.10 ha to 14.5 ha within existing Plant of M/s Bhatia Energy Minerals Private Limited Located at Village Chhote Dumarpali, Tehsil Kharsia, District Raigarh, (Chhattisgarh) under EIA Notification, 2006 and subsequent amendments/circulars thereto subject to the compliance of the following terms & conditions / specific conditions for environmental safeguards:*

(i) PP shall comply 33 % of the green belt plantation with trees in the plant boundary and in adjoining area of 2.8 ha and plan of action to be submitted to Regional office of Ministry within six months. Accordingly, three Tier Green belt developments (of 50 mtrs width) in and around the periphery of washery within 3 years.

(ii) Wild life conservation plan for schedule I species in EIA report with allocated fund shall be submitted to State Forest Department. Fund allocated for this purpose shall also submitted within six months and a copy of receiving to be submitted to Ministry Regional office within three months.

(iii) PP shall explore to utilize the rejects generated from Washery to nearby power plant to reduce the transportation at longer distance as per Ministry's notification regarding rejects.

(iv) No Untreated waste water should be discharged to the natural stream (Dantaar stream)/water body and Water requirement for coal washery operations should not exceed 1200 KLD

(v) PP should install High efficiency centrifuge, belt press filter, high frequency screening, thickener to separate coal fines and maximize water recovery.

(vi) PP to install one continuous ambient air quality monitoring station (1 no. CAAQMS) at suitable location preferably on village side. The real time data so generated shall be uploaded on company website. In addition, data should also be displayed digitally at entry and exit gate of mine lease area for public display.

(vii) Third party monitoring by reputed institute for air quality shall be carried out at identified locations, both ambient and the process area, to arrive the impact at regular interval of 3 years

(viii) Surface runoff from Storage yard of coal, reject dumps shall be stored in settling tank and later treated before any usage and quality shall be check frequently.

(ix) Road inside and at periphery of the washery plant shall be constructed of concrete only.

(x) Transportation of rejects shall only be in 40 to 50 tonne trucks only if railway siding is not present at utilization points. If railway siding is available upto FBC Power Plants/Thermal Power Plant, then no transportation shall be allowed by trucks.

(xi) Transport of raw coal, clean coal and middling shall be by rail/road (in 40-50 tonnes dumpers only). Washed coal will be transported through private railway siding at about 0.70 km from near Robertson station only. Wind Barrier along the boundary of railway siding of atleast 5 mts height shall be implemented to mitigate dust emission.

(xii) Raw coal, washed coal and rejects shall be stored in covered silos or in dome shaped storage facility. Fixed type high pressure sprinkler shall be installed in this storage yards.

(xiii) 5 nos. long ranging Fog canon system (mist spraying) shall be installed to reduce the impact of air pollution on transportation route and Railway siding.

(xiv) Persons of nearby villages shall be given training on livelihood and skill development to make them employable.

(xv) Proponent shall appoint an Occupational Health Specialist for Regular and Periodical medical examination of the workers engaged in the Project and maintain records accordingly; also, Occupational health check-ups for workers having some ailments like BP, diabetes, habitual smoking, etc. shall be undertaken once in six months and necessary remedial/preventive measures taken accordingly.

(xvi) The PP should provide proper roads, toilets facilities, plantation, solar lights, drinking water facilities, stationaries to nearby villages, school and colleges

(xvii) PP shall implement wind barrier of atleast 10 mtrs along the boundary mainly where habitation (village Karpalli, Rajagatta) is present to mitigate air pollution.

(xviii) 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.

Agenda No. 17.3

Amendment in Existing EC on expansion of Opencast coal mine -1A from 3 MTPA to 7 MTPA

in total project area of 2005.8 ha by M/s Neyveli Lignite Corp Ltd located in district Cuddalore (Tamil Nadu) regarding inclusion for manufacturing of Crushed Stone Sand of 0.262 Million m3 per annum (0.42 MTPA-peak) – For Amendment in Environment Clearance – reg.

[Online Proposal No. IA/TN/MIN/220488/2021; File no. J- 110115/02/2012-IA.II(M)]

17.3.1 The EAC during deliberations noted the following:

PP is requesting for amendment in existing EC regarding inclusion for manufacturing of Crushed Stone Sand of 0.262 Million m3 per annum (0.42 MTPA-peak).

Earlier Environment Clearance was granted to project for Expansion of Lignite Open Cast Mine-IA from 3.0 MTPA to 7.0 MTPA in a total project area of 2005.8 ha located in district Cuddalore, Tamil Nadu vide letter no. J-11015/02/2012-IA.II(M) dated 2nd September, 2015.

PP submitted the following on the amendment:

(i) Manufacturing of Crushed Stone Sand (M-Sand) of 0.262 Million m3 per annum (0.42 MTPA) to be segregated from Overburden dump from currently operating Lignite Open Cast Mine-IA of 7.0 MTPA in a total project area of 2005.8 ha located in district Cuddalore (Tamil Nadu)

(ii) M-Sand plant will be installed in an area of 8 ha within ML area of 2005.8 ha. About 22.43 Ha of temporary 10 height dump area will be brought down to ground level within existing Mine lease area for agricultural purpose. No change in Lignite Mining plan, No change in Mine lease area, No change in final Mine closure land use as per EC

(iii)One-month baseline study has been carried during the period 15th May 2021 to 15th June, 2021. The air quality observations in the study area representing 10 km radius are detailed.

Further the minimum and maximum concentrations for PM10 were recorded as 37.1 µg/m3 and 63.2 µg/m3 respectively. The minimum and maximum concentration was recorded at Mal Kuppam (AAQ4) and ML area (Mine-I) (AAQ1) respectively. The minimum and maximum concentrations for PM2.5 were recorded as 11.1 µg/m3 and 28.6 µg/m3 respectively. The minimum and maximum concentration was recorded at Sattankuppam (AAQ5) and Neyveli (AAQ3) respectively. The maximum PM10 & PM2.5 contributions might be due to entrainment of road dust in the air, due to vehicular movement and other industrial processes. The minimum and maximum SO2 concentrations were recorded as 10.5 µg/m3 and 19.7 µg/m3. The minimum and

maximum concentration was recorded at Mal Kuppam (AAQ4) and ML area (Mine-I) (AAQ1) respectively. The minimum and maximum NO2 concentrations were recorded as 11.1 µg/m3 and 28.6 µg/m3. The minimum and maximum concentration was recorded at Sattankuppam (AAQ4) and Neyveli (AAQ3) respectively.

The minimum and maximum CO concentrations were recorded as 387 µg/m3 and 339 µg/m3. The minimum and maximum concentration was recorded at Uttangal. (AAQ12) and Vadakku (AAQ10) respectively. The maximum CO concentration might be due to vehicular transportation. The minimum and maximum O3 concentrations were recorded as 2.1 µg/m3 and 3.3 µg/m3. The minimum and maximum concentration was recorded at ML area (Mine I) (AAQ1) and Vadalur (AAQ9) respectively.

(iv) The rain water/storm water collected in lignite mined out area (sumps) will be utilized for sand extraction plant. The sand extraction process recycles most of the process water. The processed residue water will be coursed to pass through series of settling pits to allow the particles to settle down and finally clear water will be recycled for extraction process

17.3.4 *The EAC, after detailed deliberation observed the proposal is regarding segregating M-sand from OB dump without any change in production capacity of lignite and lease hold area. EAC desired such proposal should be motivated which have direct impact on reduction of sand extraction from river by using sand from OB Dump. However, since this is an additional facility in mine lease area and there will be reduction in OB dump and some changes in mine closure plan activity, changes proposed must have approval Mine Plan from Ministry of coal. Accordingly, EAC observed following points of compliance from PP for further submissions:*

(i) Approved Mine Plan (including Mine Closure Plan) from Ministry of Coal for the proposed changes. earby river and nallah shall be desilted
(ii) PP shall explore total potential of extracting sand from OB Dump based on further geological survey and from already OB dump.
(iii) PP shall provide the expenditure incurred till now on wild life conservation plan till date and future expenditure as per approved Wildlife Conservation Plan.
(iv) Action plan for mine closure activity to be furnished for manufacturing of Crushed Stone Sand (M-Sand) of 0.262 Million m3 per annum (0.42 MTPA) from operating Lignite Open Cast Mine-IA (7.0 MTPA) in a total project area of 2005.8 ha
(v) Action plan for prevention and mitigation of air quality control measures to be adopted at various source of emission
(vi) PP should also clarify about the end users of the sand and where they will store the sand extracted until it is sold (on-site and off-site), also what measure will be taken for duct suppression.

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

Agenda No. 17.4

Bandha Opencast Coal Mine of 5 MTPA capacity in mine lease area of 1850.94 ha of M/s EMIL Mines and Mineral Resources Limited (EMMRL) at Village Bandha, Tenduha, Pidarwah, Deori & Pachaur, Tehsil Sarai, District Singrauli (Madhya Pradesh) - For Terms of Reference – reg.

[Online Proposal No. IA/MP/CMIN/220959/2021; IA-J-11015/54/2021- IA-II(M)]

17.4.1 The proposal is for Terms of Reference of Bandha Opencast Coal Mine of 5 MTPA capacity in mine lease area of 1850.94 ha. of M/s EMIL Mines and Mineral Resources Limited (EMMRL) at Village Bandha, Tenduha, Pidarwah, Deori & Pachaur, Tehsil Sarai, District Singrauli (Madhya Pradesh)

17.4.2 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 63L/8 and is bounded by the geographical coordinates ranging from 24° 04' 17.375" N to -24° 06' 51.064" N and longitudes 82° 21' 39.764" E to 82° 24' 56.668" E.

(ii) Coal linkage of the project - Use and Sale of Coal as per Commercial Coal Mining provisions

(iii) No Joint venture cartel has been formed

(iv) Project does 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: Estimated direct manpower requirement for the project will be 1406 persons. In addition, more than 5000 people will be benefited indirectly

(vi) The project is reported to be beneficial in terms of:

- Reduce the demand – supply gap and to meet domestic requirement for Power plants including reduction in Import of Thermal Coal;
- Generation of employment and improved standard of living;
- Establishment of small and medium scale ancillary industries with cascading effect on the economy and skill development of the locality.
- Improved green cover.
- There will be social benefits from the mining operation in the region.
- Superior communication, transport facilities, healthcare and education.
- Aims to fulfill its social sustainable responsibility through promoting and maintaining facilities as follows:
    - Promoting Education, Health, Livelihood, Rural Infrastructures, Agriculture, etc.

- Vocational training to be provided to the persons for improving their skills in Industrial Sewing, Electrical & Mechanical Repair, Computers, Hospitality, etc. for livelihood opportunities
- Add to revenue generation of the District/State

(vii) Terms of Reference granted on – (for EC proposals): Applied for ToR

(viii) Total mining lease area as per block allotment is 1850.94 ha. Mining Plan (Including Mine Closure Plan) has been approved by: Mining Plan is under preparation by CMPDI

(ix) The land usage pattern of the project is as follows:

Pre-mining land use details (Area in Ha)

S. No.	Land Use	Within ML Area	Outside ML Area
1	Agricultural Land	678.17	Nil
2	Settlements	93.76	Nil
3	Forest Land	785.49	Nil
4	Wasteland	190.08	Nil
5	Grazing Land	47.19	Nil
6	Surface Water Bodies	36.81	Nil
7	Others (Specify)	19.46	Nil
8	Old Excavation Area (East Quarry)	Nil	Nil
9	Old Excavation Area (West Quarry)	Nil	Nil
10	Old OB Dumps	Nil	Nil
11	Roads & Mine Infrastructure	Nil	Nil
12	R & R Colony	Nil	Nil
13	Staff Colony	Nil	Nil
14	Green Belt	Nil	Nil
15	Balance Area	Nil	Nil
	Total Project Area =	**1850.94**	**Nil**

Post Mining

S. No.	Type	During Mining (ha)
1.	Excavation Area	1293
2.	Dump	325
3.	Safety Zone	39.5
4.	Road diversion	-
5.	Settling Ponds	95
6.	Road & Infrastructure area	
7.	CHP & Washery	

8.	Coal Evacuation Route & Approach Road	-
9.	Rationalization Area/ Other	98.44
	TOTAL	**1850.94**

(x) Total Net geological reserve reported in the mine lease area is 560.3814 MT with 180 MT extractable reserve. Out of total reserve of 560.3814 MT, 180 MT are available for extraction. Percent of extraction is 32%.

(xi) VIII & VII seams with thickness ranging from 0.41Meter to 3.65 Meter for Seam VIII and 7.08 Meter to 16.81 Meter respectively are workable. Grade of Seam VIII is G7 to G17 and Seam VII is G7-G12, stripping ratio 8.5 m3/T, while gradient is 2 Degree to 8 Degree.

(xii) Method of mining operations envisages by Open Cast Mining method

(xiii) Life of mine is 36 years excluding development period of 4 years.

(xiv) The project has one external OB dumps in an area of 340 ha with 120m height and 235 Mm3 of OB. One Internal OB in an area of 1215 ha with 1682.5 Mm3 of OB is envisaged in the project.

(xv) Total quarry area is 1315 ha out of which backfilling will be done 1215 ha while final mine void will be created in an area of 100 ha with a depth of 130-220m. Backfilled quarry area of 1215ha shall be reclaimed with plantation. Final mine void will be utilized for access of the future underground mining operation

(xvi) Transportation of coal has been proposed by In pit: By 40 T to100 T Dump Trucks; Pit Bottom to CHP on Surface: Initially by Dump Trucks till construction of Inpit Conveyor for transportation from Pit Bottom to CHP; Surface to siding: Coal will be transported from CHP by Conveyor to Railway Siding for loading into Rail wagons

(xvii) Reclamation Plan in an area of 1555 ha, comprising of 340 ha of external dump and 1215 ha of internal dump. In addition to this, an area of 39.5 ha, included in the safety zone/rationalization area, has also been proposed for green belt development.

(xviii) 785.49ha of forest land has been reported to be involved in the project. Approval under the Forest (Conservation) Act, 1980 Application for Forest Clearance has been submitted vide Proposal No. FP/MP/MIN/144129/2021 on 29.06.2021.

(xix) No National Parks, Wildlife Sanctuaries and Eco-Sensitive Zones fall within 10 km boundary of the project.

(xx) The ground water level has been reported to be varying between 19.00 m to 21.6 m during pre- monsoon and between 16.00m to 18.69 m during post-monsoon. Total water requirement for the project is 1200 KLD.

(xxi) Bandha nalla and Kachanmuda nalla are passing through the coal block area. The nallah will be diverted, if required in consultation with the Water Resource Department of the State Government after carrying out Drainage and Nalla Study.

(xxii) No court cases, violation cases are pending against the project of the PP.

(xxiii) This is a greenfield Coal mine project and the project does not involve violation of the EIA Notification, 2006 and amendment issued thereunder

(xxiv) The project involves approximately 2100 families including 650 displaced families. R&R of the PAPs will be done as per provisions of LARR Act 2013.

(xxv) 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.

17.4.3 The EAC during deliberations noted the following:

(i) The proposal is for Terms of Reference of Bandha Open Cast Coal Mine of 5 MTPA capacity in mine lease area of 1850.94 ha. of M/s EMIL Mines and Mineral Resources Limited (EMMRL) at Village Bandha, Tenduha, Pidarwah, Deori & Pachaur, Tehsil Sarai, District Singrauli (Madhya Pradesh).

(ii) The forest land of 785.49 ha is involved and for which Stage -I Forest clearance has to be taken by PP

(iii) Bandha Nalla and Kachanmuda Nalla are passing through the coal block area. Study for Area Drainage system and Nallas have been taken up and suitable diversion by PP.

(iv) Diversion of High tension line which crossing within the lease boundary.

(v) Approval of mine plan is under process at Ministry of Coal.

(vi) Bandha Coal Mine has been alloted by Ministry of Coal to EMIL Mines and Mineral Resource Ltd vide order no NA-104/5/2020-NA dated 3rd March, 2021

(vii) Rampa River at a distance of 700 mts in south of the project.

(viii) Entire OB generated from the mine shall be backfilled from 7th/8th year of the mining operations in the mine void

(ix) Total water requirement for the project is 1200 m3/day which includes 200 m3/day as domestic usage and 1000m3/day as industrial requirement.

17.4.4 *The EAC after deliberations observed that the instant project is greenfield project which lease in Critically Polluted Areas of district Singrauli. It was also observed that Mine plan for the project is under the process of approval. Further, it was noted that there is other various rivulet joining the main river namely; Mahan, Gopad, Kanchan, Rampa, and out of which Bandha stream and Kanchanmuda stream has been proposed for diversion. Accordingly, EAC observed that by diversion of Bandha Nalla and Kachanmuda Nalla, which are passing through the coal block area as proposed by PP, will have serious environmental implication in catament area of river and need to avoid at this stage and accordingly EAC suggested to go for mining in such a manner that first 10 years, no diversion of any streams should be done. The EAC suggested to prepared augmentation report on Natural resources including the carrying capacity of river and streams within catchment area, and its mitigation measures. PP was suggested to follow three tier plantation in the periphery and along the haul roads.*

The EAC, after deliberation, ***recommends*** *the issuance of standard TOR to Bandha Open Cast Coal Mine of 5 MTPA capacity in mine lease area of 1850.94 ha. of M/s EMIL Mines and Mineral Resources Limited (EMMRL) at Village Bandha, Tenduha, Pidarwah, Deori & Pachaur, Tehsil Sarai, District Singrauli (Madhya Pradesh), under the provisions of EIA Notification, 2006 and its amendments therein with specific conditions mentioned below:*

(i) Public Consultation, including public hearing, shall be conducted through concerned SPCB in the concerned districts as per the provisions/procedure contained in the EIA Notification, 2006 for information of the stakeholders about the present coal mining operations inviting comments and their redressal.

(ii) As suggested by EAC, no diversion of Bandha Stream and Kanchanmuda stream shall be allowed and the same shall be proposed in EIA Study with appropriate mining methods to recover the coal in river catchment so that biodiversity in the area by source stream could be maintained.

(iii) PP shall prepare the Mining Plan in such a manner that condition prescribed by EAC shall intact from environment point of view. EIA-EMP shall accordingly be prepared on the suggested stipulation with point-wise compliance & in accordance with recommendations of Mining Plan

(iv) Stage-I Forest Clearance for diversion for non-forestry activity shall be submitted.

(v) PP should submit the real time aerial footage and video of the Mining lease area made through drone with a special focus on the area adjacent to the rivers.

(vi) PP shall examine the area allocated for coal mine can be reduced or not (if 100% area is not coal bearing) and accordingly PP shall plan the mining activity.

(vii) In addition to existing data already collected (if any), the Cumulative Impact Assessment Study, carrying capacity and ecosystem services study of the area shall be carried over by project proponent considering the project being in Singrauli and presence of other coal mining activity and industries. PP shall collect one season baseline data of all environmental parameters and shall compare with the data of earlier data collected for cumulative assessment of area. Air pollution impact predication shall be conducted by considering the maximum values.

(viii) PP shall explore the possibilities of utilization of OB material for different purposes (in construction of roads, manufacture of artificial sand, aggregates, use for farmers etc.) and accordingly Plan shall be included in EIA/EMP Report.

(ix) 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.

(x) Inpit conveyor belt with silo loading should be proposed and installed for transportation of coal till railway siding. No transportation of coal by trucks/dumpers shall be proposed in EIA/EMP.

(xi) 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.

(xii) Wind rose pattern in the area should be reviewed and accordingly location of AAQMS 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.

(xiii) Project proponent to prepare Environmental Cost Benefit Analysis for the project in EIA/EMP Report.

(xiv) 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.

(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 with the approval of District Commissioner/collector.

(xvi) Permission for ground water withdrawal shall be obtained from Central Ground Water Authority (CGWA) only for mining activity.

(xvii) Heavy metals including other parameters in surface water quality shall be analyzed and provided in EIA Report. Further, detailed mineralogical and chemical composition of the mineral and percentage of free silica from a NABL/MoEF&CC accredited laboratory

(xviii) PP shall be submitting R &R in respect of SCs /STs and other weaker sections of the society in the study area, a need based sample survey, family-wise, should be undertaken to assess their requirements, and action programs prepared and submitted accordingly, integrating the sectoral programmes of line departments of the State Government.

(xix) No mining activity shall be proposed on grazing land till the alternate land is provided of same area to the community.

(xx) PP should clearly bring out that what is the specific diesel consumption ~ (Liters/Tonne of total excavation & mineral) and steps to be taken for reduction of the same. Year-wise target for reduction in the specific diesel consumption needs to be submitted.

(xxi) 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 dup 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

(xxii) PP shall propose to use LNG/CNG based mining machineries and trucks for mining operation and transportation of coal.

(xxiii) PP shall submit letter from Principal Chief Conservator of Forest, State Government that the area does not falls under any Eco-sensitive zone and areas and further is no corridor of Elephants & Tigers.

(xxiv) PP shall prepare a Damage assessment (likely due to mining activity) i.e. augmentation report on Natural resources including the carrying capacity of river and stream passing by with its catchment area, its mitigation measures

(xxv) Details of toe wall and garland drain to be constructed along the OB dump.

(xxvi) Reclamation to be done using geo-texturing technique of the dumps close to habitation and a cause of visual intrusion.

(xxvii) PP shall construct coal mining related infrastructure on non-coal bearing and non-forest areas only to avoid diversion of forest land

(xxviii) Impact of proposed project/activity on hydrological regime of the area shall be assessed and report be submitted. Hydrological studies as per GEC 2015 guidelines to be prepared and submitted.

Agenda No. 17.5

Urtan North Underground Coal Mine with production Capacity 0.6/0.9 MTPA (Normative/Peak) and Coal Washery of 2 MTPA in mine lease area 475 Ha by M/s JMS Mining Pvt Limited at Villages Thodha, Baskhala, Baskhali & Mauhari, Taluka Kotma, District Anuppur (Madhya Pradesh) - For Terms of Reference – reg.

[Online Proposal No. IA/MP/CMIN/220462/2021; File No. IA-J- 11015/55/2021-IA-II(M)]

17.5.1 The proposal is for Terms of Reference of Urtan North Underground Coal Mine with production Capacity 0.6 / 0.9 MTPA (Normative/Peak) and Coal Washery of 2 MTPA in mine lease area 475 Ha by M/s JMS Mining Pvt Limited at Villages Thodha, Baskhala, Baskhali & Mauhari, Taluka Kotma, District Anuppur (Madhya Pradesh).

17.5.2 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 E/15, 64 E/16 & 64 I/3 and is bounded by the geographical coordinates ranging from 23°14'38"N to 23°16'23"N and Longitudes 81°58'38"E to 82°00'51"E

(ii) Coal linkage of the project is proposed for commercial use after beneficiation at integrated coal washery.

(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, Direct employment to 525 persons will be provided from the project.

(vi) The project is reported to be beneficial in terms of Environmental, Social, Financial aspects

(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 Integrated Coal Washery.

(ix) Total mining lease area as per block allotment is 475 ha. Mining Plan (Including Progressive Mine Closure Plan) has been submitted for approval to the Ministry of Coal on 15.06.2021

(x) The land usage pattern of the project is as under

Pre-mining land use details

S.N	Land Use	Within ML Area	Outside ML Area	Total (Ha)
1.	Agricultural Land	245.25	Nil	245.25
2.	Forest Land	6.92	Nil	6.92
3.	Waste land	181.35	Nil	181.35
4.	Grazing Land	4.04	Nil	4.04
5.	Surface Water Bodies	11.94	Nil	11.94
6.	Settlements	14.09	Nil	14.09
7.	Others (Road, Community/other use):	11.41	Nil	11.41
8.	Old Excavation Area (East Quarry)	Nil	Nil	Nil
9.	Old Excavation Area (East Quarry)	Nil	Nil	Nil
10.	Old OB Dump	Nil	Nil	Nil
11.	Roads & Mine Infrastructure	Nil	Nil	Nil
12.	R & R colony	Nil	Nil	Nil
13.	Staff Colony	Nil	Nil	Nil
14.	Green Belt	Nil	Nil	Nil
15.	Balance Area	Nil	Nil	Nil
	Total Project Area =	**475.00**	Nil	**475.00**

Post Mining Landuse

Land Use During Mining	**Land Use (Post Closure)**				
	Plantation	**Water Body**	**Public/ Company Use**	**Undisturbed**	**Total**
Top Soil Dump	0.55	0	0	0	0.55
External Dump	1.5	0	0	0	1.50
Safety Zone	0	0	0	30.25	30.25
Settling pond	0	0.18	0	0	0.18
Road & Infrastructure area	11.45	0	1.06	0	12.51
Garland drains	0	0.33	0	0	0.33
Green Belt	1.35	0	0	0.00	1.35
Water Reservoir near pit	0	0.06	0	0	0.06

UG entry	0.64	0	0	0	0.64
Undisturbed/ Mining right for UG	0	0	0	427.63	427.63
Total	**15.49**	**0.57**	**1.06**	**457.88**	**475.00**

(xi) Total geological reserve reported in the mine lease area is 69.82 MT with 56.87 MT mineable reserve. Out of total mineable reserve of 56.87 MT, about 19.59 MT are available for extraction by Underground Mining. Percent of extraction is 28.06 %.

(xii) Five seams with thickness ranging from 1.4m to 7.85m are workable. Grade of coal is W-IV & G10, while gradient of the coal seams vary from 2º-12º.

(xiii) Method of mining operations envisages by Underground Board and Pillar method

(xiv) Life of mine is 36 years.

(xv) The project has proposed one external OB dump in an area of 1.50 Ha up to 10 m height and 0.12 Mm3 of OB. There is no internal dump envisaged in the project.

(xvi) Transportation of coal has been proposed by belt conveyor up to mine pit head, from surface to Siding by road and at siding by Payloader.

(xvii) Reclamation Plan in an area of 2.85 ha, comprising of 1.50 Ha external dump & 1.35 Ha of green belt. In addition to this, an area of 30.25 ha, included in the safety zone / rationalization area, besides plantation also been proposed for green belt development.

(xviii) 6.92 ha of forest land has been reported to be involved in the project. Application for Approval under the Forest (Conservation) Act, 1980 for diversion of 6.92 ha of forest land for non-forestry purposes has been submitted.

(xix) No National Parks, Wildlife Sanctuaries and Eco-Sensitive Zones have been reported with 10 km boundary of the project.

(xx) The ground water level has been reported to be varying between 8 m to 10 m during pre-monsoon and between 0.5 m to 8.5 m during post-monsoon. Total water requirement for the project is 478 KLD for Mining and 848 KLD for coal Washery.

(xxi) Application for obtaining the Approval of the Central Ground Water Authority will be submitted.

(xxii) Kewai River is flowing 2.7 km east of lease and Bagaiha Nala flowing at 0.24 km east of lease. There is no proposal to divert the river/nallah.

(xxiii) No court cases, violation cases are pending against the project of the PP.

(xxiv) The project does not involve violation of the EIA Notification, 2006 and amendment issued thereunder. The coal production from the mine is planned to be started from the year 2027-28 onwards.

(xxv) The project involves Zero project affected families. R&R of the PAPs will be done as per LAAR, 2013.

(xxvi) Total cost of the project is Rs. 45510 lakhs. Cost of production is Rs.2440 /- per tonne, CSR cost is Rs. 5 per tonne, R&R cost will be estimated and disbursed as per the provisions LARR

2013. Environment Management Cost shall be provided in EIA/EMP as capital and as recurring cost.

17.5.3 The EAC during deliberations noted the following:

(i) The proposal is for Terms of Reference of Urtan North underground coal mine with production Capacity 0.6 / 0.9 MTPA (Normative/Peak) and Coal Washery of 2 MTPA in mine lease area 475 Ha by M/s JMS Mining Pvt Limited at Villages Thodha, Baskhala, Baskhali & Mauhari, Taluka Kotma, District Anuppur (Madhya Pradesh)
(ii) 6.92 Ha of Forest land exist in Mining Lease Area for which application is submitted vide FP/ MP/ MIN/ 144859/ 2021
(iii) Nominated Authority, Ministry of Coal under the provisions of the Coal Mines (Special Provisions) Act, 2015 and Coal Mines (Special Provisions) Rules, 2014 issued the Vesting Order No. NA-104/14/2020-NA dated 03-03-2021 in favour of M/s JMS Mining Pvt. Limited
(iv) Coal Washery proposed is within the proposed Urtan North Coal Block Project and would also be used for adjoining Urtan Coal Block allocated to JMS
(v) Bagaiha stream is at 0.24 km East and Kewai River is at 2.7 km East of the project

15.5.4 *The EAC after deliberations observed that the proposal is for greenfield underground coal mining project and also adjoining coal block has been allotted to the instant project proponent. It was found that PP is proposing to use village road for transportation of the coal so EAC mandatorily advised to make this road pucca with atleast 10 mts width and three tier plantation all along the transportation route and further suggested detailed impact assessment in terms of environment due to increase traffic. Further, it was suggested to PP that forest land and agricultural activity in the project shall be kept intact without change. Mine water shall be used for washery and no ground water will be extracted. EAC suggested that Project Proponent may provide MoU with coal linkage and rejects utilisation and with the power plants/company the coal will be sold and decided to* ***recommends*** *the issuance of standard TOR to Urtan North underground coal mine with production Capacity 0.6 / 0.9 MTPA (Normative/Peak) and Coal Washery of 2 MTPA in mine lease area 475 Ha by M/s JMS Mining Pvt Limited at Villages Thodha, Baskhala, Baskhali & Mauhari, Taluka Kotma, District Anuppur (Madhya Pradesh), 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) Stage-I Forest Clearance for diversion for non-forestry activity shall be submitted.

(iv) *Cumulative Impact Assessment Study of the area shall be carried over by project proponent considering the project being in proximity of other mines.*

(v) *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.*

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

(vii) *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.*

(viii) *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.*

(ix) *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*

(x) *Project proponent to prepare Environmental Cost Benefit Analysis for the project in EIA/EMP Report.*

(xi) *Permission for ground water withdrawal shall be obtained from Central Ground Water Authority (CGWA), if taken.*

(xii) *Impact of proposed project/activity on hydrological regime of the area considering the facts of Bagaiha stream and Kewai river shall be assessed and report be submitted. Hydrological studies as per GEC 2015 guidelines to be prepared and submitted*

(xiii) *Heavy metals including other parameters in surface water quality shall be analysed and provided in EIA Report. The parameters Arsenic, Lead and Silica shall also be analysed in ambient air quality.*

(xiv) *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.*

(xv) *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.*

(xvi) *Description of water conservation measures proposed to be adopted in the Project should be given.*

(xvii) 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.

(xviii) PP shall propose to use LNG/CNG based mining machineries and trucks for mining operation and transportation of coal.

(xix) PP shall conduct detailed study the subsidence, its impact due to mining activity and propose mitigation/management measures.

(xx) 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.

(xxi) 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.

(xxii) PP shall submit details of implementation of laying conveyor belt for transportation of coal from nearest mine to the washery.

(xxiii) PP shall provide the plan for reduction of number of trucks for transportation of coal and fleet to be redesigned.

(xxiv) Plan of utilisation of washery rejects with MoU with FBC boilers/power plants as per the MoEF&CC notification.

(xxv) PP shall work on the layout and siting of washery so that coal storage area, crushing units and rejects storage area shall not be near the villages or cause any pollution to agricultural land.

(xxvi) The washing technology so chosen should conform to 'Zero Liquid Discharge'.

Agenda No. 17.6

Expansion of Parsa East and Kanta Basan Opencast Coal Mine from 10 MTPA to 15 MTPA and Pit Head Coal Washery from 10 MTPA to 15 MTPA of M/s Rajasthan Rajya Vidyut Utpadan Nigam Ltd. in total ML area of 2682.856 ha located in Hasdeo-Arand Coalfields in District Sarguja (Chhattisgarh)- For Amendment in Environment Clearance – reg.

[Online Proposal No. IA/CG/CMIN/221555/2021; File No. J- 11015/03/2008-IA-11(M)]

17.6.1 The proposal is for amendment in Environmental Clearance of Expansion of Parsa East and Kanta Basan Opencast Coal Mine from 10 MTPA to 15 MTPA and Pit Head Coal Washery from 10 MTPA to 15 MTPA of M/s Rajasthan Rajya Vidyut Utpadan Nigam Ltd. in total ML area of 2682.856 ha located in Hasdeo-Arand Coalfields in District Sarguja (Chhattisgarh)-

17.6.4 *The EAC observed that PP has submitted the request letter i.e. M/s Rajasthan Rajya Vidyut Utpadan Nigam Ltd vide no RVUN/ACE (Fuel)/Dy CE (Fuel)/ D. 1003 dated 06.08.2021 to exclude the Agenda item no. 17.6 from the 17th EAC meeting held on 9th and 10th August, 2021.*

*The proposal was **returned** at it is.*

Agenda No. 17.7

Nandira Underground Coal mine project of 0.33 MTPA in ML area of 370 Ha (earlier 474 ha) by M/s Mahanadi Coalfield Ltd (MCL), located in villages Jambhbahali, Danara, Badajorada and Natedi, Tehsil Talchar, District Angul (Odisha) – For Amendment in Environment Clearance – reg.

[Online Proposal No. IA/OR/CMIN/220341/2021; File No. J- 11015/866/2007-IA.II(M)]

17.7.1 The EAC during deliberations noted the following:

The proposal is for amendment in existing Environmental Clearance regarding extension in timeline for STP construction along with correction of mine lease area

Environmental Clearance granted to Nandira Underground Coal mine project of 0.33 MTPA in ML area of 370 Ha (earlier 474 ha) by M/s Mahanadi Coalfield Ltd (MCL), located in villages Jambhbahali, Danara, Badajorada and Natedi, Tehsil Talchar, District Angul (Odisha). This Environment clearance was obtained under EIA Notification, 1994 vide Ministry's letter NoJ-11015/866/2007-IA.II(M), dated 18th June, 2007 and got revalidated on 15th November, 2020 as per Ministry Notification Gazette No. 1530 (E), 6th April, 2018 for 0.33 MTPA in mine lease area of 370 Ha which acquired under CBA(A&D) Act 1957.

Total mining lease area as per block allotment is 370.00 Ha. A Mining Plan for Nandira UG (0.33MTY) approved by Ministry of Coal vide letter no.34012/(4)/2011-CPAM, dtd: 13.06.2011 and Progressive Mine Closure Plan has been approved during 136th meeting of the Board of Directors of MCL on Dt: 09.01.2012

Stage-II FC obtained for forest land of 325.38 ha vide F.No.8-74/2004-FC, dated 16-06-2009

17.7.2 Project proponent has submitted the following details of configuration for which amendment in revalidated EC dated 15th November, 2020 has been requested.

S. No	Reference of Approved EC	Description as per Approved EC	Amendment sought per Proposal.	Remarks
1	Correction in the Mine lease area	474 Ha	To be corrected as 370 Ha	No Change in Overall Production and Capacity
2	Additional specific condition 4(i)	Construction of Sewage Treatment Plant (latest technology SBR/ MBBR/ MBR) should be completed	Time extension kindly be granted till April 2022.	There is no change in configuration

		by July 2021 and treated water shall be reused for plantation. As documentary proof, STP photograph after its commission to be submitted to RO, MOEF&CC with copies of its CTE and CTO.		
3	Additional specific condition 4(ii)	Grant of CTO to the project shall be subject to fulfilment of condition No.1.	Time extension kindly be granted till April 2022.	There is no change in configuration

PP informed that the existing system of treating sewage water of Nandira colony (461 nos. quarters) is combination of septic tank (2.5 m x 1.2 m x 1.5 m) and soak pit arrangement (1.2 m dia; 1.3 m depth). Soon after 2nd EAC meeting held on Dt: 29.09.2020, all necessary actions have been taken for Construction of Sewage Treatment Plant (MBBR Technology) at Nandira Colony for the capacity of 0.5 MLD.

PP cited the reasons that COVID-19 pandemic was being the major hurdle while executing each and every works Construction of STP including all sewer lines, collection tank, pumping arrangement especially for an existing old colony like Nandira Colony is a challenging & time consuming process. Due to force majeure COVID-19, we are helpless to mobilize our resources to pace up the work. The work has been awarded to M/s. Ecologics India Private Limited for the value of Rs.2.42 Crores on Dt: 01.06.2021. The work order had been cancelled due to non-submission of Bank guarantee/Performance Security Deposit. Retendering done on 16.07.2021 and technical bid opening is expected by first week of Aug'2021

17.7.3 *The EAC after deliberations observed that, the PP could not build Sewage Treatment Plant i.e condition No. 4(i) due to COVID-19 pandemic and non-commencement of works by contractor after its award of work, PP could not comply with given conditions and hence sought extension in timeline. Further, it was noted that PP has committed to comply the condition upto April, 2022. In view of above facts, EAC* ***recommends*** *the proposal of amendment in revalidated EC dated 15th November, 2020 to comply the said condition at 4(i) and (ii) by April, 2022 and correcting the typo error of mining lease area from 474 ha to 370 ha to the Nandira Underground Coal mine project of 0.33 MTPA in ML area of 370 Ha (earlier 474 ha) by M/s Mahanadi Coalfield Ltd (MCL), located in villages Jambhbahali, Danara, Badajorada and Natedi, Tehsil Talchar, District Angul (Odisha), under the provisions of EIA Notification, 2006 and its amendments therein. All other conditions stipulated in EC dated 18th June, 2007 and 15th November, 2020 shall remain unchanged.*

Agenda No. 17.8

Expansion of Balaram OCP (Earlier known as Kalinga OCP) from 8.0 MTPA to 15.0 MTPA with increase of mine lease area from 1309 Ha to 2574.00 Ha (Additional land of 1265 Ha) by M/s Mahanadi Coalfields Limited at villages namely Nakeipasi, Brahmanbahali, Kochianali, Damal, Prasana Nagar, Nathagaon, Majhika, Kalamchhuin, Danara, Natada, Banabaspur, Telipur, Solada, Satyabadipur, Gopalprasadkhamar, Khuringa, and Birabarpur, Tehsil Talchar Sadar, District Angul (Odisha)- For Terms of Reference – reg.

[Online Proposal No. IA/OR/CMIN/203596/2021; File No. J- 11015/09/2013-IA-II(M)]

17.8.1 The proposal is for Terms of Reference of Expansion of Balaram OCP (Earlier known as Kalinga OCP) from 8.0 MTPA to 15.0 MTPA with increase of mine lease area from 1309 Ha to 2574.00 Ha (Additional land of 1265 Ha) by M/s Mahanadi Coalfields Limited at villages namely Nakeipasi, Brahmanbahali, Kochianali, Damal, Prasana Nagar, Nathagaon, Majhika, Kalamchhuin, Danara, Natada, Banabaspur, Telipur, Solada, Satyabadipur, Gopalprasadkhamar, Khuringa, and Birabarpur, Tehsil Talchar Sadar, District Angul (Odisha).

17.8.2 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 Toposheet No: F45T1 (73H/1) on RF 1:50000 and is bounded by the geographical coordinates ranging from Kalinga East: Latitude: 20º 53' 33" & 20º 59' 05" N; Longitude: 85º 03' 56" & 85º 06' 57" E ; Kalinga West : Latitude : 20º 56' 02" & 20º 59' 05" N ; Longitude : 85º 02' 52" & 85º 06' 56"E

(ii) Coal linkage of the project: Washery APGENCO & Other power houses and basket linkages.

(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: Employment given so far up to 31.03.2021 = 3544 persons. Apart from the above-mentioned direct employment potential, the proposed mining project will generate secondary and tertiary employment for the local people. The project is reported to be beneficial in terms of

- Contribution to the Exchequer (both State and Central Govt.)
- Improvement of Electrical Power Generation and availability of electricity in rural areas.
- Improvement in physical and social infrastructure like roads, school building, provision of drinking water, community hall, plantation etc.
- Overall economic growth of the country.

(vi) Earlier, the environment clearance to the project was obtained Ministry's letter vide letter No. J.11015/4/87-IA-C, dated 24th October, 1990 for 8 MTPA in the mine lease area of

1329.40 Ha. The proposal for EC is due to capacity expansion from 8 MTPA to 15 MTPA and increase in ML area from 1329.40 ha to 2574 ha is under consideration at MoEF & CC.

(vii) Total mining lease area as per block allotment is 2574 Ha and as per approved Mining Plan is 2574 Ha. Mining plan (including Progressive Mine closure plan) has been approved by MCL Board vide letter no. MCL/SBP/CS/BD-226/Ext/2020/11151, dt- 29.08.2020 and subsequently corrigendum approved by MCL Board vide letter no. MCL/SBP/CS/BD-227/Ext/2020/11307, dt-17.11.2020.

(viii) The land usage pattern of the project is as follows:

Land use details (Area in Ha)

SI. No	Type of Land	For 8 MTY project	Total area for 15 MTY expansion
a)	Agricultural	680.93	1909.302
b)	Forest	85.01	278.855
c)	Barren	170.11	76.265
d)	Grazing		49.527
e)	Water bodies	6.60	117.04
f)	Roads	386.76	45.289
g)	Township		97.757
	Total	1329.40	2574

Pre-Mining land use details

S. No	Particulars	As per Approved P.R and E.C of Balram OCP (8Mty) (A)			Additional land for Balram Expansion OC. project (15Mty) (Ext + Exp) (B)			Total Land for Balram Expansion OC. project (15Mty)
		Forest	Non-Forest	TOTAL	Forest	Non-Forest	TOTAL	
1	Excavation Area	58.33	609.67	668.00	186.765	1008.935	1195.70	1863.70
2	Ext. OB Dump	0	32.2	32.20	0	0	0	32.20
3	Blasting Safety Zone (300m)	26.68	343.32	370.00	0	0	0	370.00
4	Safety Barrier of 7.5 MTPA	0	0	0	1.851	7.449	9.30	9.30
5	Infrastructure	0	14.80	14.80	5.229	54.771	60.00	74.80

6	Others (Magzine, Service Road etc)	0	224.00	224.00	0	0	0	224.00
7	Total Mining Lease Area	85.01	1223.99	1309.00	193.845	1071.155	1265.00	2574.00
8	Colony	0	32.00	32.00	0	0	0	32
9	R&R	0	18.6	18.60	0	134.00	134.00	152.60
10	Others (Rat. Mine Boundary + Approach Road)	0	20.4	20.40	0	0	0	20.40
11	Sub Total	0	71.00	71.00	0	13 4	134.00	205.00
12	Total Lease Area	85.01	1294.99	1380.00	193.845	1205.155	1399.00	2779.00

Post Mining

Post-mining land use (at the end of mining activity)							
Sl. No	Category	Land use (in ha)					
		Plantation	Water body	Dip side slope, Active dump &	Un dis-turbed	Public /Company use	Total
1	Quarry excavation	1554.24	39.36	270.1	0	0	1863.7
2	Safety zone (7.5mt)	9.3	0	0	0	0	9.3
3	OB dumps (external)	32.2	0	0	0	0	32.2
4	Infrastructure	22.44	0	0	5.984	46.376	74.8
5	Blasting Danger	244.2	0	0	25.75	100.05	370
6	Other areas	134.4	0	0	17.92	71.68	224
	MINE LEASE AREA	1996.78	39.36	270.1	49.654	218.106	2574
7	Residential colony	6.4				25.6	32
8	Resettlement site	30.52	0	0	0	122.08	152.6
9	Others	4.08	0	0	0	16.32	20.4
	TOTAL PROJECT	2037.78	39.36	270.1	49.654	382.106	2779

(ix) Total geological reserve reported in the mine lease area is 746.21 Mt with 712.134 Mt as mineable reserves. Out of total mineable reserve of 712.134 Mt are available for extraction as on 01.04.2020. Percent of extraction is 96.6%.

(x) 19 seams with thickness ranging from 0.3 to 22 are workable. Overall Grade of Coal is G-12, Stripping ratio is 2.10 (mineral in tones to overburden in m^3) while gradient is 2.75^0 - 8^0.

(xi) Method of mining operations envisages by Opencast Mining Method Coal winning by Surface Miner, pay loader& tipper and OB removed by Shovel-Dumper combination.

(xii) Life of mine is 49 years as on 01.04.2020

(xiii) The project has one OB dump exists in an area of 32 ha with maximum height of 30 Mtr and 11.28 Mm3 of OB. OB is being simultaneously backfilled into the de-coaled area (internal OB dumping). An area of 1647.27 ha is proposed for internal OB dump out of which 338.12 Ha already exists as on 31.03.2021. Total 1492.07 Mm3 of OB material is envisaged for backfilling in internal OB dump and out of which 172.50 Mm^3 has already been backfilled in the existing project as on 31.03.2021.

(xiv) Total quarry area is 1863.7 ha out of which backfilling will be done in 1554.24 ha up to ground level (out of which 338.12 Ha is already backfilled) while final mine void will be created in an area of 309.46 ha of partially backfilled area out of which 39.36 Ha will be converted into water body with a maximum depth of 15 to 40 m. Backfilled quarry area of 1554.24 ha shall be reclaimed with plantation/grass/agriculture.

(xv) Transportation of coal has been proposed as below.

- In mine pit: through Surface miner & by tipper
- From surface to siding: 7.0 MTPA – Pipe conveyor to washery; 5.0 MTPA – Belt conveyor to Siding; 3.0 MTPA – Belt conveyor to Truck loading system
- Siding to loading:7.0 MTPA – Pipe conveyor to washery; 5.0 MTPA – Belt conveyor to Siding; 3.0 MTPA – Belt conveyor to Truck loading system

(xvi) Reclamation Plan in an area of 1996.78 ha, comprising of 32.2 ha of external dump, 1554.24 ha of internal dump, 9.3 Ha of Green Belt and 244.2 Ha of blasting danger zone. In addition to this, an area of 22.44 ha. included in the roads/infrastructure and built-up area and 134.4 Ha in other areas, has also been proposed for green belt development.

(xvii)278.855 ha of forest land have been reported to be involved in the project. Forest clearance has been obtained for 85.01 ha of forest land for the existing 8 MTY in 28.9.1990 vide letter no. 8-143/89- FC and for proposed (expansion) application for diversion of 193.845 Ha forest land is under process (Proposal no. FP/OR/MIN/59166/2020).

(xviii) No National Parks, Wildlife Sanctuaries and Eco-Sensitive Zones have been reported with 10km boundary of the project.

(xix) The ground water level has been reported to be varying between 1.5 m to 10.5 m bgl. Total water requirement for the project is 4.35 MLD.

(xx) Application for obtaining the approval of the Central Ground Water Authority has been submitted vide application no. 21-4/2053/OR/MIN/2018, dtd. 11.08.2018 for Ground water withdrawal. Amended application submitted vide no. MCL/HA/PO(BOCP)/Envt/487, dtd.

17.11.2020. Presentation given on 27.07.2021 in CGWA 3rd meeting of Expert Appraisal Committee and currently the application is with Chairman, CGWA.

(xxi) Consent to Operate for the existing capacity has been obtained vide 5330/IND-I-CON-1218 Dt 27.03.2021 valid till 31.03.2022 from the State Pollution Control Board.

(xxii) Bangaru Jhor flows from SW to NE and another Singada jhor flows in adjacent to northwestern boundary of the block. There is no diversion linked to these streams.

(xxiii) Baseline data generation study for this expansion projected is conducted for the period from March to May 2021. Regular monitoring of ambient air quality of existing capacity (8 MTPA) is being carried out on fortnightly basis. The documented report is submitted to Regional Office, MoEF&CC, and Bhubaneswar and 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.

(xxiv) No court cases are pending.

(xxv) 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 1991-92.

(xxvi) The project involves 3715 project affected families to be resettled. R&R of the PAPs will be done as per Orissa Rehabilitation and Resettlement Policy 2006.

(xxvii) The sanctioned capital for the project 8 MTPA is Rs. 516.74 Crs. The additional capital for incremental production of 7.0 MTPA is Rs.3504.21 Crores and total capital for the project is Rs.4020.95 Crores. Cost of production is Rs.612.61 per ton and sale price is 987.17 per tonne, CSR cost is Rs.2.00 per tonne or 2% of the average net profit of the Company of the three immediately preceding financial years whichever is higher, Proposed Rehabilitation site development cost is 233.80 Crores. Proposed R&R cost (excluding land but including house compensation) is 187.96 Crores. Proposed Environment Management Cost is Rs Rs.125.26 Cr (for expansion project.)

(xxviii) Consent to operate (CTO) was obtained for 8 MTPA from the State Pollution Control Board and for expansion 15 MTPA project, CTO will be obtained after the grant of EC for expansion.

(xxix) Past Production details comparison with existing EC

Year	Coal Achieved (MT)	Actual Production	Excess production beyond the EC sanctioned capacity
1990 – 91	8.00	0.00	Nil
1991 – 92	8.00	0.13	Nil
1992 – 93	8.00	1.21	Nil
1993 – 94	8.00	1.50	Nil
1994 – 95	8.00	1.76	Nil
1995 – 96	8.00	2.57	Nil

1996 – 97	8.00	3.81	Nil
1997 – 98	8.00	4.34	Nil
1998 – 99	8.00	5.03	Nil
1999 – 00	8.00	6.41	Nil
2000 – 01	8.00	4.90	Nil
2001 – 02	8.00	5.28	Nil
2002 – 03	8.00	5.20	Nil
2003 – 04	8.00	4.03	Nil
2004 – 05	8.00	4.85	Nil
2005 – 06	8.00	3.21	Nil
2006 – 07	8.00	4.13	Nil
2007 – 08	8.00	4.91	Nil
2008 – 09	8.00	3.50	Nil
2009 – 10	8.00	3.61	Nil
2010 – 11	8.00	4.55	Nil
2011 – 12	8.00	5.56	Nil
2012 – 13	8.00	5.63	Nil
2013 – 14	8.00	4.57	Nil
2014 – 15	8.00	3.70	Nil
2015 - 16	8.00	2.52	Nil
2016 – 17	8.00	2.81	Nil
2017 – 18	8.00	2.79	Nil
2018 – 19	8.00	3.63	Nil
2019 - 20	8.00	5.23	Nil
2020 - 21	8.00	6.26	Nil

17.8.3 The EAC during deliberations noted the following:

(i) The proposal is for Terms of Reference of Expansion of Balaram OCP (Earlier known as Kalinga OCP) from 8.0 MTPA to 15.0 MTPA with increase of mine lease area from 1309 Ha to 2574.00 Ha (Additional land of 1265 Ha) by M/s Mahanadi Coalfields Limited at villages namely Nakeipasi, Brahmanbahali, Kochianali, Damal, Prasana Nagar, Nathagaon, Majhika, Kalamchhuin, Danara, Natada, Banabaspur, Telipur, Solada, Satyabadipur, Gopalprasadkhamar, Khuringa, and Birabarpur, Tehsil Talchar Sadar, District Angul (Odisha).

(ii) The forest land of 85.01 ha is involved and for which Stage –I Forest clearance has been issued vide letter no 8-143/89-FC from MoEf dt 28/09/1990. In proposed expansion project an additional area of 193.845 ha of forest land is required to be diverted for which application is submitted to DFO, state serial No. OR-025/2021 dated 05/04/2021

(iii) Earlier, the environment clearance to the project was obtained Ministry's letter vide letter No. J.11015 / 4 / 87-IA-C on 24th October 1990 for 8 MTPA in the mine lease area of 1329.40 Ha.

(iv) Earlier PP has submitted for expansion in EC capacity from 8 MTPA to 20 MTPA vide proposal no. IA/OR/CMIN/29773/2012. The proposal was appraised by EAC in its 42nd meeting and deferred on following observation

(v) While appraisal of the proposal, the committee observed as under:- (i) There is no proper linkage/connectivity between the name of the Coal Mine project, its capacity and the present proposal. As per record no EC has been granted to any Balram mine. It is noted that PP today informed the internal change of name from Kalinga to Balram. (ii) The project proponent has to first apply for change in the name of Balram OCP from Kalinga OCP with its capacity of 8 MTPA, and then apply for amendment in TOR issued on 24th May, 2013. (iii) The Mine Plan/Mine Closure plan approval for the intended capacity of 20 MTPA was in process – which is a pre-requisite. (iv) Response to the representation from one of the NGOs requesting to address issues w.r.t. water reservoir, school and hospitals, information about fauna and non-compliance for the existing project to be submitted. 42.9.5 In view of the above discrepancies/anomalies, the EAC deferred the project.

(vi) PP has submitted request vide its letter dated 20th May, 2021 due to change in mine lease area and forest land area, a revised Mine Plan/Mine Closure Plan has been approved by MCL Board and a fresh proposal has been submitted on parivesh portal for ToR. PP has proposed to withdraw the earlier proposal of expansion in EC.

(vii) Streams namely Bangaru Jhor flows from SW to NE and another Singada Jhor flows in adjacent to northwestern boundary of the block. There is no diversion linked to these streams.

17.8.4 *The EAC after deliberations observed that the instant proposal of expansion has an impact on around 15 villages and desired that all these 15 villages must be represented during the public consultation/hearing. PP has submitted that earlier expansion proposal has been requested to be withdrawn due to change in mine lease and forest area and accordingly Mine plan has been revised. EAC desired that Ministry may accept the withdrawal submitted by project proponent. Finally, EAC* ***recommends*** *the project to Expansion of Balaram OCP (Earlier known as Kalinga OCP) from 8.0 MTPA to 15.0 MTPA with increase of mine lease area from 1309 Ha to 2574.00 Ha (Additional land of 1265 Ha) by M/s Mahanadi Coalfields Limited at villages namely Nakeipasi, Brahmanbahali, Kochianali, Damal, Prasana Nagar, Nathagaon, Majhika, Kalamchhuin, Danara, Natada, Banabaspur, Telipur, Solada, Satyabadipur, Gopalprasadkhamar, Khuringa, and Birabarpur, Tehsil Talchar Sadar, District Angul (Odisha), with standard ToR and with specific conditions mentioned below:*

(i) PP should submit the certified authenticated/Audited production figures from the revenue department or department of mining and geology of State Government or certificate from Coal Controller for production capacity since 1993-94.

(ii) 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 about the present coal mining operations inviting comments and their redressal.

(iii) PP to submit the certified compliance report of existing EC duly inspected by IRO of MoEF&CC.

(iv) Cumulative Impact Assessment Study of the area shall be carried over by project proponent.

(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) 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

(vii) Project proponent to prepare Environmental Cost Benefit Analysis for the project in EIA/EMP Report.

(viii) Permission for ground water withdrawal shall be obtained from Central Ground Water Authority (CGWA

(ix) Impact of proposed project/activity on hydrological regime of the area shall be assessed and report be submitted. Hydrological studies as per GEC 2015 guidelines to be prepared and submitted

(x) Heavy metals including other parameters in surface water quality shall be analysed and provided in EIA Report. the parameters Arsenic, Lead and Silica shall also be analysed in ambient air quality.

(xi) PP shall provide an integrated mine production and mine reclamation plan of which the systematic and post mining land form management / landscape management of mining area, internal, and external dump area will be integral. Both internal and external dumps shall be regarded and reshaped to reduce its height as close to the original surface level as possible for better land use post mining activities.

(xii) 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.

(xiii) Description of water conservation measures proposed to be adopted in the Project should be given. Details of toe wall and garland drain to be constructed along the OB dump.

(xiv) Reclamation to be done using geo-texturing technique of the dumps close to habitation and a cause of visual intrusion.

(xv) Minimum 100 m distance to be maintained from dumps to habitation and three tier green belt to be developed.

(xvi) The PP should submit the photograph of monitoring stations & sampling locations. The photograph should bear the date, time, latitude & longitude of the monitoring station/sampling location. In addition to this PP should submit the original test reports and certificates of the labs which will analyse the samples PP should clearly bring out that what is the specific diesel consumption ~ (Liters /Tonne of total excavation & mineral) and steps to be taken for reduction of the same. Year-wise target for reduction in the specific diesel consumption needs to be submitted. PP should submit the detailed mineralogical and chemical

composition of the mineral and percentage of free silica from a NABL/MoEF&CC accredited laboratory.

(xvii) PP should clearly bring out the details of the manpower to be engaged for this project with their roles/responsibilities/designations. In addition to this PP should mention the number and designation of person to be engaged for implementation of environmental management plan (EMP).

(xviii) PP to give priorities to 15 villages getting directly affected by the project during the public consultation and the minutes to be prepared in this manner that it will highlights the problems raised by them first and then the other villages coming in the public hearing.

Agenda No. 17.9

Chandragupta Opencast Coal mine for production capacity of 15 / 20 MTPA (Normative/Peak) in mine lease area of 1495 Ha by M/s Central Coalfield Ltd located at Village Badhaikhap, Bukru, Chatti-Bariyatu, Jordag, Nawakhap, Pachra/Pachanda, Peto, Sijhua in District Hazaribagh and in Village Ursu, District Chatra (Jharkhand) - For Terms of Reference – reg.

[Online Proposal No. IA/JH/CMIN/208302/2021; IA-J-11015/43/2021-IA- II(M)]

17.9.1 The proposal is for Chandragupta Opencast Coal mine for production capacity of 15 / 20 MTPA (Normative/Peak) in mine lease area of 1495 Ha by M/s Central Coalfield Ltd located at Village Badhaikhap, Bukru, Chatti-Bariyatu, Jordag, Nawakhap, Pachra/Pachanda, Peto, Sijhua in District Hazaribagh and in Village Ursu, District Chatra (Jharkhand).

17.9.2 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 block is covered in Survey of India Topo-sheet no. 73A/13 & 73E/1 and is bounded by the geographical coordinates ranging from 23° 51′30'' N to 23° 54′45'' N latitude and 85° 01' 15'' E to 85° 03′15'' E longitude.

(ii) Coal linkage of the project is proposed for generation of Energy Sector for various customers through Basket linkage.

(iii) 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.

(iv) Employment generation: The project has given a boost to the economy of the area by providing primary and secondary employment to local people. Total number of direct employment is approximately 1,247.

(v) The project is reported to be beneficial in terms of improvements in Physical Infrastructure; Improvements in Social Infrastructure; Increase in Employment Potential; Contribution to the Exchequer; Meet energy and steel sector requirement; Productive utilization of existing manpower of project.

(vi) Total project area as per block allotment is 1495 Ha. Project Report has been approved by the 408th Board meeting of CIL held on 04.08.2020.

(vii) The land usage pattern of the project is as follows:

Pre-mining land use details:

S.No	Particular	Forest Land	Non-Forest Land	Total Area (in Ha.)
1	Quarry	629.29	703.86	1333.15
2	CHP	9.3	5.52	14.82
3	Infrastructure (W/S,S/S etc.)	13.94	2.3	16.24
4	Road	4.38	14.2	18.58
5	Stream Diversion	0.14	1.52	1.66
6	Embankment & Greenbelt	2.61	13.82	16.43
7	Green Belt	36.82	44.08	80.9
8	Water body	0	10.32	10.32
9	Safety Zone	2.9	0	2.9
Total Area		**699.38**	**795.62**	**1495**

Post-mining land use details:

S.No.	Particular	Plantation	Water Body	Public Use	Total
1	Quarry	1299.56	33.59	0	1333.15
2	CHP	14.82	0	0	14.82
3	Infrastructure	0	0	16.24	16.24
4	Road	0	0	18.58	18.58
5	Stream Diversion	0	1.66	0	1.66
6	Embankment & Greenbelt	16.43	0	0	16.43
7	Green Belt	80.90	0	0	80.90
8	Water body	0	10.32	0	10.32
9	Safety Zone	2.90	0	0	2.90
Total Area		**1414.61**	**45.57**	**34.82**	**1495**

(viii) Total geological reserve reported in the block area is 709.26 Million Tes with 527.30 Million Tes mineable reserve. Out of the total 527.30 Million Tes mineable reserve, 527.30 Million Tes is available for extraction. Percent of extraction is 100 %.

(ix) 10 seams with thickness ranging from 0.16 m – 14.69 m are workable. Grade of coal is G-11, stripping ratio 1.89, while seam gradient is 4° to 6°.

(x) The method of mining would be opencast method of mining with Surface miner and shovel-dumper combination.

(xi) Life of mine is proposed 41 years.

(xii) The project has 01 external OB dump planned in nearby Amrapali OCP for initial 4 years in an area of 89.16 Ha with 60 m height and 48.38 Mm^3 of OB. One internal OB in an area of 1299.56 Ha with 946.56 Mm3 of OB is envisaged in the project.

(xiii) Total Quarry area is 1333.15 Ha. The final mine void would be in 33.59 Ha with depth an average up to 90 m below GL. Backfilled quarry area is of 1299.56 Ha, out of which 1299.56 Ha shall be reclaimed with plantation. Final mine void will be converted into water body.

(xiv) Transportation of coal has been proposed by dumper from mine pithead, from surface to siding by conveyor belt.

(xv) Reclamation Plan in an area of 1414.61 Ha, comprising of 1299.56 Ha of internal dump, 14.82 Ha of Infrastructure and 100.23 Ha of green belt & safety zone.

(xvi) 699.38 ha of forestland have been reported to be involved in the project. Application for diversion of forestland has been submitted electronically on 09.04.2021 vide Proposal No: FP/JH/MIN/140599/2021

(xvii) No National Parks, Wildlife Sanctuaries and Eco-Sensitive Zones have been reported with 10 km boundary of the project.

(xviii) The ground water level has been reported to be varying between 1.95 m to 10.88 m during pre-monsoon and between 1.50 m to 6.20 m during post-monsoon. Total water requirement for the project is 2782 KLD.

(xix) Application for obtaining the approval of the Central Ground Water Authority shall be submitted after issuance of ToR.

(xx) Barki River flows in the Western side and Chotki River within the mine boundary. It is proposed to divert Chotki River & straighten a notch of Barki River.

(xxi) No court cases, violation cases are pending against the project of the PP.

(xxii) The project does not involve violation of the EIA Notification, 2006 and amendment issued there under.

(xxiii) The project involves 500 project-affected families. R&R of the PAPs will be done as per R&R Policy of CIL.

(xxiv) Total capital cost of the project, as per approved Project Report is Rs. 973.50 Crores. Cost of Production is approximately Rs. 602.91/- per Tonne. CSR expenditure is to be 2% of avg. net profit of last 3 years or Rs 2 per tonne of Coal production in last FY. The R&R cost is 55.04 Crores. Environment Management Cost is approximately Rs. 29.74 Crores.

17.9.3 The EAC during deliberations noted the following:

(i) The proposal is for Terms of Reference of Chandragupta Opencast Coal mine for production capacity of 15 / 20 MTPA (Normative/Peak) in mine lease area of 1495 Ha by M/s Central Coalfield Ltd located at Village Badhaikhap, Bukru, Chatti-Bariyatu, Jordag, Nawakhap,

Pachra/Pachanda, Peto, Sijhua in District Hazaribagh and in Village Ursu in District Chatra (Jharkhand).

(ii) Barki River flows in the Western side and Chotki River within the mine boundary. It is proposed to divert Chotki River & straighten a notch of Barki River.

(iii) The site will share common railway siding with Amarpali Mine Site located adjacent to the site. It has been proposed that coal from Chandragupt OCP (15.0 MTY) will be despatched by rail. The proposed railway siding with MGR bulb facilities of adjacent Amrapali Project will be used for loading and dispatch of coal from the mine

(iv) Total 699.38 ha of forestland have been reported to be involved in the project. Application for diversion of forestland has been submitted electronically on 09.04.2021 vide Proposal No: FP/JH/MIN/140599/2021

(v) PP shall avoid implementing infrastructure activities such as CHP, W/S,S/S etc, road in forest area. No forest diversion shall be conducted except of coal bearing areas by PP. Stream diversion (chotki river) of length 1700 mtrs and Barki Nadi diversion length 100 mtr has been proposed by project proponent and accordingly embankment along the Barki Nadi is proposed.

17.9.4 *The EAC after deliberations observed the proposal is of greenfield Coal mining project. EAC observed that there are two diversions of Chotki river and straighten a notch of Barki River involved in the project which can be avoided. EAC desired that mining methods shall be proposed in such a manner that first 10 years, such diversion & straightening of any streams should be avoided. The EAC also asked PP to prepare catchment area study in terms of water augmentation including mitigation measures on such diversion. Further, non-coal bearing areas having forest should be avoided for development of any infrastructure related to coal mining operations. Forest land should only be diverted if it is essential to do. EAC observed that Amrapali OCP Mine and other mine is located adjacent to the mine towards east hence recommended PP for cumulative impact assessment study of the air quality with its proper suggestive measures. The EAC inquired about the villages directly getting affected and asked the PP to prioritize their presence and issued raised by them along with other villages during the public hearing and consultation. Against the compensation of 5 lakhs per family under R&R plan, as decided by PP, EAC asked to revise the cost. EAC also suggested the PP to provide a proper need base survey for proposed CSR/CER activities with break up. The ground water permission is also to be obtained by the PP.*

The EAC decided to ***recommend*** *the issuance of standard TOR to Chandragupta Opencast Coal mine for production capacity of 15 / 20 MTPA (Normative/Peak) in mine lease area of 1495 Ha by M/s Central Coalfield Ltd located at Village Badhaikhap, Bukru, Chatti-Bariyatu, Jordag, Nawakhap,*

Pachra/Pachanda, Peto, Sijhua in District Hazaribagh and in Village Ursu, District Chatra (Jharkhand) under the provisions of EIA Notification, 2006 and its amendments therein with specific conditions mentioned below.

(i) PP shall prepare Mine Plan and sequence of mining such that no diversion of river or stream will be carried out for initial 10 years from the grant of EC.

(ii) All non-essential infrastructure proposed on forest land shall be shifted to non-forest area.

(iii) PP shall submit Stage –I Forest Clearance for diversion of forest land for non-forestry activity.

(iv) PP should submit the real time aerial footage and video of the Mining lease area made through drone with a special focus on the area adjacent to the Barki River

(v) PP shall prepare a Damage assessment i.e. augmentation report on Natural resources including the carrying capacity of river and stream passing by with its catchment area, its mitigation measures.

(vi) 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 about the present coal mining operations inviting comments and their redressal.

(vii) Cumulative Impact Assessment Study of the area shall be carried over by project proponent

(viii) 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.

(ix) PP shall explore the possibilities of utilization of OB material for different purposes (in construction of roads, manufacture of artificial sand, aggregates, use for farmers etc.) and accordingly Plan shall be included in EIA/EMP Report.

(x) 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.

(xi) Inpit conveyor belt with silo loading should be proposed and installed for transportation of coal till railway siding. No transportation of coal by trucks/dumpers shall be proposed in EIA/EMP.

(xii) Wind rose pattern in the area should be reviewed and accordingly location of AAQMS 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.

(xiii) Project proponent to prepare Environmental Cost Benefit Analysis for the project in EIA/EMP Report.

(xiv) 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.

(xv) Detailed Social Impact Assessment shall be prepared in villages for Rehabilitation and Re-settlement. R &R Activity as approved by State Government shall be submitted and action plan shall be proposed with timeline and allotted fund.

(xvi) Heavy metals, pH, color including other parameters in surface water quality in upstream and downstream of konar river shall be analyzed and provided in EIA Report. Further, detailed

mineralogical and chemical composition of the mineral and percentage of free silica from a NABL/MoEF&CC accredited laboratory

(xvii) PP shall be submitting R &R in respect of SCs /STs and other weaker sections of the society in the study area, a need based sample survey, family-wise, should be undertaken to assess their requirements, and action programs prepared and submitted accordingly, integrating the sectoral programmes of line departments of the State Government.

(xviii) PP should clearly bring out that what is the specific diesel consumption ~ (Liters/Tonne of total excavation & mineral) and steps to be taken for reduction of the same. Year-wise target for reduction in the specific diesel consumption needs to be submitted.

(xix) PP shall provide provision of integrated mine plan and mine reclamation cum land form / land scape plan for 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 dup 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.

(xx) PP shall propose to use LNG/CNG based mining machineries and trucks for mining operation and transportation of coal

(xxi) Description of water conservation measures proposed to be adopted in the Project should be given.

(xxii) Details of toe wall and garland drain to be constructed along the OB dump.

(xxiii) Reclamation to be done using geo-texturing technique of the dumps close to habitation and a cause of visual intrusion.

(xxiv) Details of water spraying (static water sprinklers) at coal stock yard and along the permanent haul road.

(xxv) Details of black topping of permanent haul roads.

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

(xxvii) 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.

(xxviii) PP shall submit the details of input parameters indicating the sources of fugitive dust emissions, and a flowchart showing the various mining activities considered for modelling of air quality

The meeting ended with thanks to the Chair.

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Annexure-I

Standard EC Conditions for Coal Mining Project (Opencast mining):

All the projects recommended for grant of environmental clearance by the EAC shall also comply with the following Standard EC conditions as per Ministry's circular issued from time to time:

(a) Statutory compliance

(i) The project proponent shall obtain forest clearance under the provisions of Forest (Conservation) Act, 1986, in case of the diversion of forest land for non-forest purpose involved in the project.

(ii) The project proponent shall obtain clearance from the National Board for Wildlife, if applicable.

(iii) The project proponent shall prepare a Site-Specific Conservation Plan / Wildlife Management Plan and approved by the Chief Wildlife Warden. The recommendations of the approved Site-Specific Conservation Plan/Wildlife Management Plan shall be implemented in consultation with the State Forest Department. The implementation report shall be furnished along with the six-monthly compliance report (in case of the presence of Schedule-I species in the study area).

(iv) The project proponent shall obtain Consent to Establish/Operate under the provisions of Air (Prevention & Control of Pollution) Act, 1981 and the Water (Prevention & Control of Pollution) Act, 1974 from the concerned State Pollution Control Board/ Committee.

(v) The project proponent shall obtain the necessary permission from the Central Ground Water Authority.

(vi) Solid/hazardous waste generated in the mines needs to addressed in accordance to the Solid Waste Management Rules, 2016/Hazardous & Other Waste Management Rules, 2016.

(b) Air quality monitoring and preservation

(i) Continuous ambient air quality monitoring stations as prescribed in the statue be established in the core zone as well as in the buffer zone for monitoring of pollutants, namely PM_{10}, $PM_{2.5}$, SO_2 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 PM_{10}/$PM_{2.5}$) 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 air borne dust. Side cladding all along the conveyor gantry should be made to avoid air borne dust. Drills shall be wet operated or fitted with dust extractors.

(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-lA.11 (M) dated 27th May, 2009 issued by Ministry of Environment, Forest and Climate Change shall also be referred in this regard for its compliance.

(iii) Regular monitoring of ground water level and quality shall be carried out in and around the mine lease area by establishing a network of existing wells and constructing new piezometers during the mining operations. The monitoring of ground water levels shall be carried out four times a year i.e. pre-monsoon, monsoon, post-monsoon and winter. The ground water quality shall be monitored once a year, and the data thus collected shall be sent regularly to MOEFCC/RO.

(iv) Monitoring of water quality upstream and downstream of water bodies shall be carried out once in six months and record of monitoring data shall be maintained and submitted to the Ministry of Environment, Forest and Climate Change/Regional Office.

(v) Ground water, excluding mine water, shall not be used for mining operations. Rainwater harvesting shall be implemented for conservation and augmentation of ground water resources.

(vi) Catch and/or garland drains and siltation ponds in adequate numbers and appropriate size shall be constructed around the mine working, coal heaps & OB dumps to prevent run off of water and flow of sediments directly into the river and water bodies. Further, dump material shall be properly consolidated/ compacted and accumulation of water over dumps shall be avoided by providing adequate channels for flow of silt into the drains. The drains/ ponds so constructed shall be regularly de-silted particularly before onset of monsoon and maintained properly. Sump capacity should provide adequate retention period to allow

proper settling of silt material. The water so collected in the sump shall be utilised for dust suppression and green belt development and other industrial use. Dimension of the retaining wall constructed, if any, at the toe of the OB dumps within the mine to check run-off and siltation should be based on the rainfall data. The plantation of native species to be made between toe of the dump and adjacent field/habitation/water bodies.

(vii) Adequate groundwater recharge measures shall be taken up for augmentation of ground water. The project authorities shall meet water requirement of nearby village(s) after due treatment conforming to the specific requirement (standards).

(viii) Industrial waste water generated from CHP, workshop and other waste water, shall be properly collected and treated so as to conform to the standards prescribed under the standards prescribed under Water Act 1974 and Environment (Protection) Act, 1986 and the Rules made there under, and as amended from time to time. Adequate ETP /STP needs to be provided.

(ix) The water pumped out from the mine, after siltation, shall be utilized for industrial purpose 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 land reclamation and plantation purposes. Active OB dumps shall be stabilised with native grass species to prevent erosion and surface run off. The other overburden dumps shall be vegetated with native flora species. The excavated area shall be backfilled and afforested in line with the approved Mine Closure Plan. Monitoring and management of rehabilitated areas shall continue until the vegetation becomes self-sustaining. Compliance status shall be submitted to the Ministry of Environment, Forest and Climate Change/ Regional Office.

(vi) The project proponent shall make necessary alternative arrangements, if grazing land is involved in core zone, in consultation with the State government to provide alternate areas for livestock grazing, if any. In this context, the project proponent shall implement the directions of Hon'ble Supreme Court with regard to acquiring grazing land.

(g) Green Belt

(i) The project proponent shall take all precautionary measures during mining operation for conservation and protection of endangered/endemic flora/fauna, if any, spotted/reported in the study area. The Action plan in this regard, if any, shall be prepared and implemented in consultation with the State Forest and Wildlife Department.

(ii) Greenbelt consisting of 3-tier plantation of width not less than 7.5 m shall be developed all along the mine lease area as soon as possible. The green belt comprising a mix of native species (endemic species should be given priority) shall be developed all along the major approach/ coal transportation roads.

(h) Public hearing and Human health issues

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

(ii) The project proponent shall undertake occupational health survey for initial and periodical medical examination of the personnel engaged in the project and maintain records accordingly as per the provisions of the Mines Rules, 1955 and DGMS circulars. Besides regular periodic health check-up, 20% of the personnel identified from workforce engaged in active mining operations shall be subjected to health check-up for occupational diseases and hearing impairment, if any, as amended time to time.

(iii) Personnel (including outsourced employees) working in core zone shall wear protective respiratory devices and shall also be provided with adequate training and information on safety and health aspects.

(iv) Implementation of the action plan on the issues raised during the public hearing shall be ensured. The project proponent shall undertake all the tasks/measures as per the action plan submitted with budgetary provisions during the public hearing. Land oustees shall be compensated as per the norms laid down in the R&R policy of the company/State Government/Central Government, as applicable.

(v) The project proponent shall follow the mitigation measures provided in this Ministry's OM No.Z-11013/5712014-IA.I1 (M) dated 29th October, 2014, titled 'Impact of mining activities on habitations-issues related to the mining projects wherein habitations and villages are the part of mine lease areas or habitations and villages are surrounded by the mine lease area'.

(i) Corporate Environment Responsibility

(i) The project proponent shall comply with the provisions contained in this Ministry's OM vide F.No.22-65/2017-IA.III dated 1st May 2018, as applicable, regarding Corporate Environment Responsibility.

(ii) The company shall have a well laid down environmental policy duly approve by the Board of Directors. The environmental policy should prescribe for standard operating procedures to have proper checks and balances and to bring into focus any infringements/deviation/violation of the environmental/forest/wildlife norms/conditions. The company shall have defined system of reporting infringements/deviation/violation of the environmental/forest/wildlife norms/conditions and/or shareholders/stake holders.

(iii) A separate Environmental Cell both at the project and company head quarter level, with qualified personnel shall be set up under the control of senior Executive, who will directly to the head of the organization.

(iv) Action plan for implementing EMP and environmental conditions along with responsibility matrix of the company shall be prepared and shall be duly approved by competent authority. The year wise funds earmarked for environmental protection measures shall be kept in separate account and not to be diverted for any other purpose. Year wise progress of implementation of action plan shall be reported to the Ministry/Regional Office along with the Six Monthly Compliance Report.

(v) Self environmental audit shall be conducted annually. Every three years third party environmental audit shall be carried out.

(j) Miscellaneous

(i) The project proponent shall make public the environmental clearance granted for their project along with the environmental conditions and safeguards at their cost by prominently advertising it at least in two local newspapers of the District or State, of which one shall be in the vernacular language within seven days and in addition this shall also be displayed in the project proponent's website permanently.

(ii) The copies of the environmental clearance shall be submitted by the project proponents to the Heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt.

(iii) The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and update the same on half-yearly basis.

(iv) The project proponent shall monitor the criteria pollutants level namely; PM_{10}, SO_2, NOx (ambient levels) or critical sectoral parameters, indicated for the projects and display the same at a convenient location for disclosure to the public and put on the website of the company.

(v) The project proponent shall submit six-monthly reports on the status of the compliance of the stipulated environmental conditions on the website of the ministry of Environment, Forest and Climate Change at environment clearance portal.

(vi) The project proponent shall follow the mitigation measures provided in this Ministry's OM No.Z-11013/5712014-IA.I1 (M) dated 29th October, 2014, titled 'Impact of mining activities on habitations-issues related to the mining projects wherein habitations and villages are the part of mine lease areas or habitations and villages are surrounded by the mine lease area'.

(vii) The project proponent shall submit the environmental statement for each financial year in Form-V to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently and put on the website of the company.

(viii) The project authorities shall inform to the Regional Office of the MOEFCC regarding commencement of mining operations.

(ix) The project authorities must strictly adhere to the stipulations made by the State Pollution Control Board and the State Government.

(x) The project proponent shall abide by all the commitments and recommendations made in the EIA/EMP report, commitment made during Public Hearing and also that during their presentation to the Expert Appraisal Committee.

(xi) No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment, Forests and Climate Change.

(xii) Concealing factual data or submission of false/fabricated data may result in revocation of this environmental clearance and attract action under the provisions of Environment (Protection) Act, 1986.

(xiii) The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.

(xiv) The Ministry reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner shall implement these conditions.

(xv) The Regional Office of this Ministry shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data / information/monitoring reports.

(xvi) The above conditions shall be enforced, inter-alia under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, Hazardous and Other Wastes (Management and Trans-boundary Movement) Rules, 2016 and the Public Liability Insurance Act, 1991 along with their amendments and Rules and any other orders passed by the Hon'ble Supreme Court of India / High Courts and any other Court of Law relating to the subject matter.

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Annexure-II

Standard EC Conditions for Coal Mining Project (Underground mining):

All the projects recommended for grant of environmental clearance by the EAC shall also comply with the following Standard EC conditions as per Ministry's circular issued from time to time:

I. Statutory compliance:

(i) The Environmental clearance shall be subject to orders of Hon'ble Supreme Court of India, Hon'ble High Courts, NGT and any other Court of Law, from time to time, and as applicable to the project

(ii) The project proponent shall obtain forest clearance under the provisions of Forest (Conservation) Act, 1986, in case of the diversion of forest land for non-forest purpose involved in the project.

(iii) The project proponent shall obtain clearance from the National Board for Wildlife, if applicable.

(iv) The project proponent shall prepare a Site-Specific Conservation Plan / Wildlife Management Plan and approved by the Chief Wildlife Warden. The recommendations of the approved Site-Specific Conservation Plan / Wildlife Management Plan shall be implemented in consultation with the State Forest Department. The implementation report shall be furnished along with the six-monthly compliance report. (in case of the presence of schedule-I species in the study area)

(v) The project proponent shall obtain Consent to Establish / Operate under the provisions of Air (Prevention & Control of Pollution) Act, 1981 and the Water (Prevention & Control of Pollution) Act, 1974 from the concerned State Pollution Control Board/ Committee.

(vi) The project proponent shall obtain the necessary permission from the Central Ground Water Authority.

(vii) Solid waste/hazardous waste generated in the mines needs to 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, SO_2 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 air borne dust. Side cladding all along the conveyor gantry should be made to avoid air borne dust. Drills shall be wet operated or fitted with dust extractors.

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-lA.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 reverian/ riparian ecosystem in and around the coal mine upto a distance of 5 km. A revarian /riparian ecosystem conservation and management plan should be prepared and implemented in consultation with the irrigation / water resource department in the state government.

IV. Noise and Vibration monitoring and prevention

i. Adequate measures shall be taken for control of noise levels below 85 dB(A) in the work environment. Workers engaged in underground mining operations, operation of HEMM, etc. shall be provided with personal protective 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.I1 (M) dated 29th October, 2014, titled 'Impact of mining activities on habitations-issues related to the mining projects wherein habitations and villages are the part of mine lease areas or habitations and villages are surrounded by the mine lease area'.

IX. Corporate Environment Responsibility

i. The project proponent shall comply with the provisions contained in this Ministry's OM vide F.No. 22-65/2017-IA.III dated 1st May 2018, as applicable, regarding Corporate Environment Responsibility.

ii. The company shall have a well laid down environmental policy duly approve by the Board of Directors. The environmental policy should prescribe for standard operating procedures to have proper checks and balances and to bring into focus any infringements/deviation/violation of the environmental / forest / wildlife norms / conditions. The company shall have defined system of reporting infringements / deviation / violation of the environmental / forest / wildlife norms / conditions and / or shareholders /

stake holders. The copy of the board resolution in this regard shall be submitted to the MoEF&CC as a part of six-monthly report.

iii. A separate Environmental Cell both at the project and company head quarter level, with qualified personnel shall be set up under the control of senior Executive, who will directly to the head of the organization.

iv. Action plan for implementing EMP and environmental conditions along with responsibility matrix of the company shall be prepared and shall be duly approved by competent authority. The year wise funds earmarked for environmental protection measures shall be kept in separate account and not to be diverted for any other purpose. Year wise progress of implementation of action plan shall be reported to the Ministry/Regional Office along with the Six Monthly Compliance Report.

v. Self environmental audit shall be conducted annually. Every three years third party environmental audit shall be carried out.

X. Miscellaneous

i. The project proponent shall make public the environmental clearance granted for their project along with the environmental conditions and safeguards at their cost by prominently advertising it at least in two local newspapers of the District or State, of which one shall be in the vernacular language within seven days and in addition this shall also be displayed in the project proponent's website permanently.

ii. The copies of the environmental clearance shall be submitted by the project proponents to the Heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt.

iii. The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and update the same on half-yearly basis.

iv. The project proponent shall submit six-monthly reports on the status of the compliance of the stipulated environmental conditions on the website of the ministry of Environment, Forest and Climate Change at 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.

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Annexure-III

Standard EC Conditions for Coal Washery Project

I. Statutory compliance:

(i) The project proponent shall obtain forest clearance under the provisions of Forest (Conservation) Act, 1986, in case of the diversion of forest land for non-forest purpose involved in the project.

(ii) The project proponent shall obtain clearance from the National Board for Wildlife, if applicable.

(iii) The project proponent shall prepare a Site-Specific Conservation Plan / Wildlife Management Plan and approved by the Chief Wildlife Warden. The recommendations of the approved Site-Specific Conservation Plan / Wildlife Management Plan shall be implemented in consultation with the State Forest Department. The implementation report shall be furnished along with the six-monthly compliance report. (incase of the presence of schedule-I species in the study area)

(iv) The project proponent shall obtain Consent to Establish / Operate under the provisions of Air (Prevention & Control of Pollution) Act, 1981 and the Water (Prevention & Control of Pollution) Act, 1974 from the concerned State pollution Control Board/ Committee.

(v) The project proponent shall obtain the necessary permission from the Central Ground Water Authority.

(vi) Solid waste/hazardous waste generated in the washery needs to addressed in accordance to the Solid Waste Management Rules, 2016 / Hazardous & Other Waste Management Rules, 2016.

(vii) Coal beneficiation practices shall be carried out under strict adherence to provisions of the Factories Act, 1957 and subordinate legislations made there under.

II. Air quality monitoring and preservation

i. Adequate ambient air quality monitoring stations shall be established in the core zone as well as in the buffer zone for monitoring of pollutants, namely particulates, SO2 and NOx. Location of the stations shall be decided based on the meteorological data, topographical features and environmentally and ecologically sensitive receptors in consultation with the State Pollution Control Board. Monitoring of heavy metals such as Hg, As, Ni, Cd, Cr, etc. carried out at least once in six months.

ii. Continuous ambient air quality monitoring stations as prescribed in the statue be established in the core zone as well as in the buffer zone for monitoring of pollutants, namely PM_{10}, $PM_{2.5}$, SO_2 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 appropriate planned and designed to avoid air and water pollution from such sites.

III. **Water quality monitoring and preservation**

i. The effluent discharge (mine waste water, workshop effluent) shall be monitored in terms of the parameters notified under the Water Act, 1974 Coal Industry Standards vide GSR 742 (E) dated 25.9.2000 and as amended from time to time by the Central Pollution Control Board.

ii. The monitoring data shall be uploaded on the company's website and displayed at the project site at a suitable location. The circular No. J-20012/1/2006-lA.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 run of from reject dumping sites.

vii. An Integrated Surface Water Management Plan for the washery area up to its buffer zone considering the presence of any river/rivulet/pond/lake etc. with impact of coal washing activities on it, shall be prepared, submitted to 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 outsoured 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.I1 (M) dated 29th October, 2014, titled 'Impact of mining activities on habitations-issues related to the mining projects wherein habitations and villages are the part of mine lease areas or habitations and villages are surrounded by the mine lease area'.

VIII. **Corporate Environment Responsibility**

i. The project proponent shall comply with the provisions contained in this Ministry's OM vide F.No. 22-65/2017-IA.III dated 1st May 2018, as applicable, regarding Corporate Environment Responsibility.

ii. The company shall have a well laid down environmental policy duly approve by the Board of Directors. The environmental policy should prescribe for standard operating procedures to have proper checks and balances and to bring into focus any infringements/deviation/violation of the environmental / forest / wildlife norms / conditions. The company shall have defined system of reporting infringements / deviation / violation of the environmental / forest / wildlife norms / conditions and / or 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 n

ii. ewspapers 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.

iii. 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.

iv. 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.

v. The project proponent shall monitor the criteria pollutants level namely; PM_{10}, SO_2, 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.

vi. 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.

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ANNEXURE-IV

Generic ToR for coal washery

i. Siting of washery is critical considering to its environmental impacts. Preference should be given to the site located at pit head; in case such a site is not available, the site should be as close to the pit head as possible and coal should be transported from mine to the washery preferably through closed conveyer belt to avoid air pollution.
ii. The washery shall not be located in eco-sensitive zones areas.
iii. The washery should have a closed system and zero discharge. The storm drainage should be treated in settling ponds before discharging into rivers/streams/water bodies.
iv. A thick Green belt of about 50 m width should be developed surrounding the washery.
v. A brief description of the plant alongwith a layout, the specific technology used and the source of coal should be provided.
vi. The EIA-EMP Repot should cover the impacts and management plan for the project of the capacity for which EC is sought and the impacts of specific activities, including the technology used and coal used, on the environment of the area (within 10km radius), and the environmental quality of air, water, land, biotic community, etc. through collection of data and information, generation of data on impacts for the rated capacity. Cumulative impacts for air and water should be a part of ElA in case coal mine, TPP and other washeries are located within 10km radius. The ElA 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 (PM_{10}, $PM_{2.5}$, SOx and NOx, noise, water (surface and groundwater), soil be submitted.
ix. The wet washery should generally utilize mine water only. In case mine water is not available, the option of storage of rain water and its use should be examined. Use of surface water and ground water should be avoided.
x. Detailed water balance should be provided. The break-up of water requirement as per different activities in the mining operations vis-a-vis washery should be given. If the source of water is from surface water and/or ground water, the same may be justified besides obtaining approval of the Competent Authority for its drawl.
xi. The entire sequence of mineral production, transportation, handling, transfer and storage of mineral and waste, if any, and their impacts on air quality should be shown in a flow chart with specific points where fugitive emissions can arise and specific pollution control/mitigative measures proposed to be put in place. The washed coal and rejects should be transport by train as far as possible. Road transport of washed coal and rejects should generally be avoided. In case, the TPP is within 10km radius, it should be through conveyer belt. If transport by rail is not feasible because of the topography of the area, the option for transport by road be examined in detail and its impacts along with the mitigation

measures should be clearly brought out in ElA/EMP report.

xii. Details of various facilities proposed to be provided in terms of parking, rest areas, canteen etc. to the personnel involved in mineral transportation, workshop and effluents/pollution load from these activities should be provided.

xiii. Impacts of CHP, if any, on air and water quality should also be spelt out alongwith Action Plan.

xiv. O.M.no.J-ll0I3/25/2014-IA.I dated 11th August, 2014 to be followed with regard to CSR activities.

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

xvi. Analysis of samples indicating the following be submitted:

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

Characteristics and quantum of coal after washing.

Characteristics and quantum of coal rejects.

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

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

xix. Corporate Environment Responsibility:

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

xx. A detailed action Plan for Corporate Social Responsibility for the project affected people and people living in and around the project area should be provided.

xxi. Permission of drawl of water shall be pre-requisite for consideration of EC.

xxii. Wastewater /effluent should confirm to the effluent standards as prescribed under Environment (Protection) Act, 1986

xxiii. Details of washed coal, middling and rejects along with the MoU with the end-users should be submitted.

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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 (PM_{10}, $PM_{2.5}$, SO_x, NO_x and heavy metals such as Hg, Pb, Cr, As, etc), noise, water (surface and groundwater), soil - along with one-season met data coinciding with the same season for AAQ collection period should be provided.

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

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

(xvii) Details of mineral reserves, geological status of the study area and the seams to be worked, ultimate working depth and progressive stage-wise working scheme until the end of mine life should be provided on the basis of the approved rated capacity and calendar plans of production from the approved Mining Plan. Geological maps and sections should be included. The Progressive mine development and Conceptual Final Mine Closure Plan should also be shown in figures. Details of mine plan and mine closure plan approval of Competent Authority should be furnished for green field and expansion projects.

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

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

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

(xxi) Source of water for use in mine, sanction of the Competent Authority in the State Govt. and impacts vis-à-vis the competing users in the upstream and downstream of the project site. should be given.

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

(xxiii) Impact of blasting, noise and vibrations should be given.

(xxiv) Impacts of mining on the AAQ and predictions based on modeling using the ISCST-3 (Revised) or latest model should be provided.

(xxv) Impacts of mineral transportation within the mining area and outside the lease/project along with flow-chart indicating the specific areas generating fugitive emissions should be provided. Impacts of transportation, handling, transfer of mineral and waste on air quality, generation of effluents from workshop etc, management plan for maintenance of HEMM and other machinery/equipment should be given. Details of various facilities such as rest areas and canteen for workers and effluents/pollution load emanating from these activities should also be provided.

(xxvi) Effort be made to reduce/eliminate road transport of coal inside and outside mine and for mechanized loading of coal through CHP/ Silo into wagons and trucks/tippers.

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

(xxviii) Efforts be made for maximising progressive internal dumping of O.B., sequential mining, external dump on coal bearing area and later rehandling into the mine void.--to reduce land degradation.

(xxix) Impact of change in land use due to mining operations and plan for restoration of the mined area to its original land use should be provided.

(xxx) Progressive Green belt and ecological restoration /afforestation plan (both in text, figures and in the tabular form as per the format of MOEFCC given below) and selection of species (native) based on original survey/land-use should be given.

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

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

* As a representative example

Table 2 : Stage Wise Cumulative Plantation

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

* As a representative example

(xxxi) Conceptual Final Mine Closure Plan and post mining land use and restoration of land/habitat to the pre- mining status should be provided. A Plan for the ecological restoration of the mined out area and post mining 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/PROJECT AREA (ha)	TOTAL FORESTLAND (ha)	Date of FC	Extent of forestland	Balance area for which FC is yet to be obtained	Status of appl for. diversion of forest land
		If more than, provide details of each FC			

ANNEXURE -VI

GENERIC TORs FOR AN UNDERGROUND COALMINE PROJECT

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

(ii) An EIA-EMP Report would be prepared for..... MTPA rated capacity to cover the impacts and environment management plan for the project specific activities on the environment of the region, and the environmental quality encompassing air, water, land, biotic community, etc. through collection of data and information, generation of data on impacts including prediction modeling for..... MTPA of coal production based on approved project/Mining Plan for.....MTPA. 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)

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 though 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 (PM_{10}, $PM_{2.5}$, SO_x, NO_x and heavy metals such as Hg, Pb, Cr, As, etc), noise, water (surface and groundwater), soil - along with one-season met data coinciding with the same season for AAQ collection period 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.

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

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

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

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

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

		If more than one provide details of each FC			

ANNEXURE-VII

GENERIC TORs FOR AN OPENCAST-CUM-UNDERGROUND COALMINE PROJECT

(i) An EIA-EMP Report would be prepared for a combined peak capacity of .....MTPA for OC-cum-UG project which consists of .... MTPA in 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.

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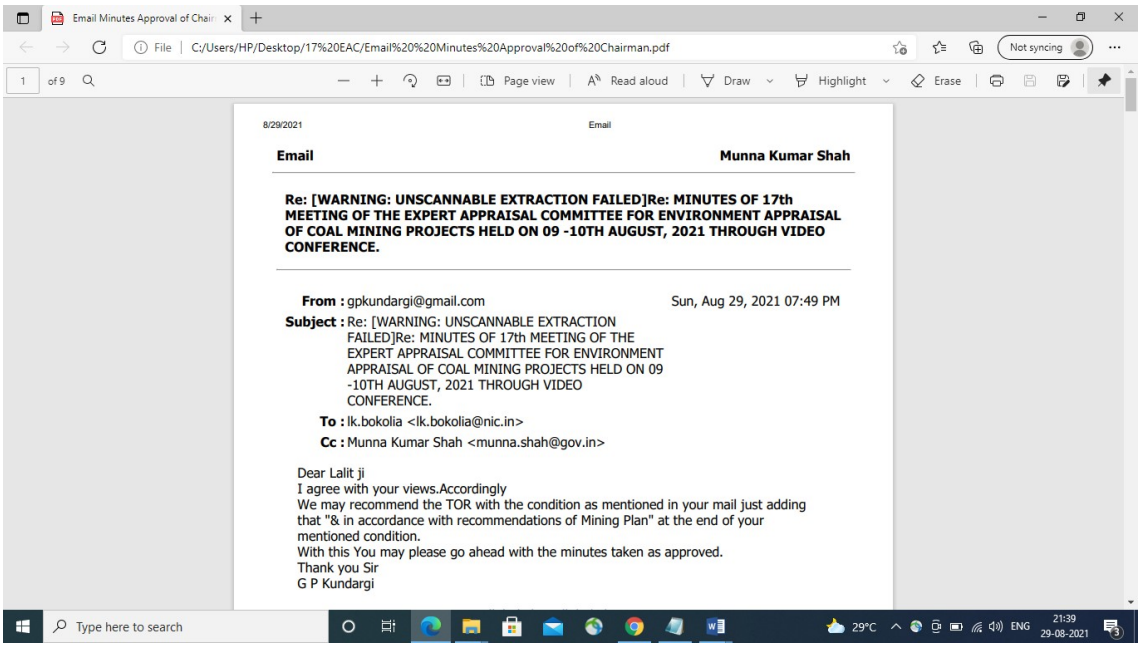
ANNEXURE-VIII



8/29/2021 Email

Email **Munna Kumar Shah**

Re: [WARNING: UNSCANNABLE EXTRACTION FAILED]Re: MINUTES OF 17th MEETING OF THE EXPERT APPRAISAL COMMITTEE FOR ENVIRONMENT APPRAISAL OF COAL MINING PROJECTS HELD ON 09 -10TH AUGUST, 2021 THROUGH VIDEO CONFERENCE.

From : gpkundargi@gmail.com Sun, Aug 29, 2021 07:49 PM

Subject : Re: [WARNING: UNSCANNABLE EXTRACTION FAILED]Re: MINUTES OF 17th MEETING OF THE EXPERT APPRAISAL COMMITTEE FOR ENVIRONMENT APPRAISAL OF COAL MINING PROJECTS HELD ON 09 -10TH AUGUST, 2021 THROUGH VIDEO CONFERENCE.

To : lk.bokolia <lk.bokolia@nic.in>

Cc : Munna Kumar Shah <munna.shah@gov.in>

Dear Lalit ji
I agree with your views.Accordingly
We may recommend the TOR with the condition as mentioned in your mail just adding that "& in accordance with recommendations of Mining Plan" at the end of your mentioned condition.
With this You may please go ahead with the minutes taken as approved.
Thank you Sir
G P Kundargi

LIST OF PARTICIPANTS OF EAC (COAL) IN 17th MEETING OF HELD DURING 9-10 August, 2021 THROUGH VIDEO CONFERENCING

1.	**Shri G.P Kundargi**			**DAY-1**
		-	**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