

MINUTES OF 26th MEETING OF THE EXPERT APPRAISAL COMMITTEE FOR ENVIRONMENT APPRAISAL OF COAL MINING PROJECTS HELD ON 18th FEBRUARY, 2022 THROUGH VIDEO CONFERENCE.

Confirmation of the Minutes of 25th Meeting of the EAC (Coal) held on 18th -20th January, 2022: The minutes of the 25th meeting of the EAC held during 18th to 20th January, 2022 as 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 26th meeting of the Expert Appraisal Committee (EAC) for coal mining projects was held on, 18th February, 2022 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. 26.1

Giddi Opencast Project of production capacity 1 MTPA (Peak) of M/s Central Coalfields Limited located at south Karanpura Coalfield in Mandu Development Block of District Hazaribagh (Jharkhand) - For Environmental Clearance (Under Violation category) –reg.

[Online proposal No. IA/JH/CMIN/74323/2018; F No. 23-245/2018 (III) V]

26.1.1 The proposal is for Environment Clearance of Giddi Opencast Project with production capacity of 1 MTPA (Peak) in an ML area of 187.98 Ha of M/s Central Coalfields Limited located at south Karanpura Coalfield in Mandu Development Block and in villages Gidi & Kurkutta of District Hazaribagh (Jharkhand)

26.1.2 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 is covered in Survey of India toposheet no. 73-E/6 and is bounded by latitudes 23° 40' 56" N to 23° 41' 58" N and longitudes 85° 20' 46" E to 85° 21' 56" E.
- (ii) Coal linkage of the project is proposed through basket linkage for various power plants and other industries.
- (iii) No Joint venture cartel has been formed for the project.

- (iv) Project does not fall in 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, project is source to temporary and permanent employment of about 449 persons.
- (vi) The project is reported to be beneficial in terms of Environmental benefit that Reclamation activities will be carried out throughout the life of mine and post closure as per progressive and final mine closure plan. Socioeconomic benefits of the Project will accrue through direct and indirect employment to local population and financial benefit in terms of contribution to exchequer etc.
- (vii) Terms of Reference granted on 25.09.2019 vide letter no. 23-245/2018-IA.III (V)
- (viii) Total mining lease area as per block allotment is 187.98 Ha. Mining Plan (Including Progressive Mine Closure Plan) has been approved in the 507th CCL Board meeting on 23.09.2021.
- (ix) The land usage pattern of the project is as follows

Pre-mining land use details

Description	Area (Ha)
Scrubs	17.0
Plantation Area	50
Agricultural land	6.0
Mining Area	114
Settlements	1.0
Total Land	187.98

Post-Mining: Area in Ha

Post mining	
Particulars	Area in Ha
Mine void filled with water	29.97
OB Dump Reclaimed with Plantation	36.56
Infrastructure	7.36
Road	3.39
Nala/Stream	1.13
Old waterlogged quarry	15.13
Dump reclaimed with plantation	10.31
Plantation	14.04
Plantation on Vacant Land	70.09
Total	187.98

- (x) As per the approved Mining Plan, total geological reserve reported in the mine lease area is 10.07 MT with 2.76 MT mineable reserve. Out of the total mineable reserve of 2.76 MT, 2.76 MT is available for extraction. Percent of extraction is 100 %.

- (xi) 7 seams with thickness ranging from 2.16 meter to 26 meter are workable. Grade of coal is G-8. Stripping ratio is 2.03 while gradient is 14 degree to 22 degree.
- (xii) Method of mining operation is by open-cast mining with Shovel-Dumper operation
- (xiii) Life of mine is 05 years
- (xiv) The project has 1 external OB dumps in an area of 29.10 ha with 60 m height and 3.59 Mm³ of OB. 1 internal OB in an area of 7.47 ha with 2.02 Mm³ of OB is envisaged in the project.
- (xv) Total quarry area is 29.97 ha. Final mine void will be created in an area of 29.97 ha with a depth of 110 m. Backfilling will be done in the old worked out quarry of 7.69 ha.
- (xvi) It is proposed to transport coal from Mine to Giddi Railway Siding (0.3 km) by tipping trucks. Total length of coal transportation road is around 1.5 kms within the project boundary.
- (xvii) Reclamation Plan in an area of 146.13 ha, comprising of 39.18 ha of external dump, 7.69 ha of internal dump and 14.04 ha of green belt.
- (xviii) 73.94 ha of forest land has been reported to be involved in the project. Stage I forest clearance obtained for 232.42 ha of forest land vide MoEF&CC letter No. 8-73/2003-FC Dt.08.06.2004.
- (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 4-9.3 m (Pre monsoon) and 1.8-6.57m (Post monsoon). Total water requirement for the project is 837 KLD.
- (xxi) NOC of the Central Ground Water Authority has been issued vide no: CGWA/NOC/MIN/ORIG/2021/13941 Dated: 03.12.2021.
- (xxii) Public hearing for the project of 1 MTPA capacity was conducted on 26.10.2021 at Officer's Club, Giddi A, Post- Giddi A. Major issues raised in the public hearing include Environmental pollution, employment for locals, supply of drinking water, health, motor driving training facility and better roads. Appropriate action to address the issues raised in the Public Hearing have been taken.
- (xxiii) Consent to Operate for the existing capacity was obtained from the Jharkhand State PCB on 30.07.2021 and is valid upto 31.03.2022.
- (xxiv) The drainage of the block is controlled by easterly flowing Damodar river, which flows in the south of the block at a safe distance, and its tributary, southerly flowing Local nala, which flows in the west of the project boundary. Local nala meets master drainage Damodar river at a distance of more than 1500 m in the south of the block. The nallah will not be diverted in consultation with the Water Resource Department of the State Government.
- (xxv) Regular monitoring of ambient air quality is being carried out on fortnightly basis. The documented report is submitted to JSPCB and also to MOEF&C along with half yearly EC compliance report. In general, the results of ambient air quality monitoring data were found within prescribed limits except few aberrations which can be attributed to the specific local conditions during the day of sampling.
- (xxvi) No court cases, violation cases are pending against the project of the PP.
- (xxvii) The project involve violation of the EIA Notification, 2006 and amendment issued thereunder. The coal production from the mine was started from the 1993-94 onwards. The coal production, realized from the project, from 1993-94 onwards, is as under

Financial Year	Coal Production (MTPA)	Excess Production Beyond CTO in the base year 1993-94
1993-94	0.234	0
1994-95	0.174	0
1995-96	0.200	0
1996-97	0.177	0
1997-98	0.200	0
1998-99	0.380	0.146
1999-00	0.264	0.03
2000-01	0.126	0
2001-02	0.154	0
2002-03	0.188	0
2003-04	0.320	0.086
2004-05	0.325	0.091
2005-06	0.367	0.133
2006-07	0.346	0.112
2007-08	0.350	0.116
2008-09	0.413	0.179
2009-10	0.400	0.166
2010-11	0.481	0.247
2011-12	0.485	0.251
2012-13	0.532	0.298
2013-14	0.504	0.27
2014-15	0.415	0.181
2015-16	0.454	0.22
2016-17	0.301	0.067
2017-18	0.199	0
2018-19	0.208	0
2019-20	0.113	0
2020-21	0.227	0
		2.593 MT

(xxviii) The project involves no R&R.

(xxix) Total cost of the project is Rs. 102.98 Crores. Cost of production is Rs. 4518.02/Tonne. CSR cost is the fund for the CSR should be allocated based on 2% of the average net profit of the Company for the three immediately preceding financial years or Rs. 2.00 per Tonne of Coal Production of previous year whichever is higher. No R&R involved in the project. Environment Management Cost is Rs. 16.0251 crores.

(xxx) Consent to operate (CTO) was obtained from the State Pollution Control Board on 30.07.2021

and is valid till 31.03.2022

(xxxi) The project has produced 0.233 MTPA in 1993-94 and operated without obtaining EC since then.

26.1.3 The EAC during deliberations noted the followings:

- PP has applied for EC under violation category as per Ministry's Notification dated 14th March, 2017. The violation under this project has been recorded against the excess production from the production of the base year of 1993-94. TOR to project was granted on 25.09.2019 vide file no. 23-245/2018-IA.III (V)
- As per the past production detail mentioned above it was found that the PP had exceeded coal production in MTPA beyond the CTO capacity of base year of 1993-94 i.e. 0.234 in 1998 to 2000 & 2003-2016 i.e. for 16 years with excess production of 2.593 MT of coal.
- Giddi washery is located just adjacent to the Giddi mine lease area but is non-functional as per the information provided by PP.
- Mining Plan and Mine Closure Plan of Giddi A OCP (1.00 MTPA) was approved in the 507th CCL Board meeting on 23.09.2021. Certified Copy of EC Compliance report has been secured from Integrated Regional office, MoEF & CC, Nagpur vide letter no F. No EC-1031/RON/2019-NGP/8842 dated 05th Nov'2021.
- Forest Land involved is 73.94 Ha, which has been obtained, Stage I vide MoEF file no: 8-73/2003- FC Dt.08.06.2004 for 232.42 Ha.
- Copy of credible action taken by State pollution board or State Government is not furnished by PP.
- A three Star rating declared by MoC vide Lr.No.CC/ CS&SR/General File/2019-20, dt.17.05.2021 for the year 2018-19 to this mine. Star rating for the years 2019-20 & 2020- 21 are not yet declared by the MoC.
- Total cost estimated cost for ecological damage assessment is Rs. 12.14 crore as proposed by PP and about 2.32 crores is proposed to be spent in remediation measures and approx. 1.06 crores on NCRAP.
- Surface water monitoring has been done only for two locations, though the Patunga, Taliya and Gobardana stream is flowing near the mine lease area and these are not monitored. PP had also mentioned in Damage Assessment report that no impact on surface water is assumed by PP, which seems very impractical.
- The monitoring frequency taken up for baseline study with respect to ground water, soil, etc is not as per the CPCB guidelines, and also the area lies in Hazaribagh which is now severely polluted area and requires adequate monitoring of nearby study area.
- In the Core and Buffer zone, as per the interaction with local stakeholders and reference of forest working plan, Peacock, Python and Monitor Lizard of Schedule I species are occasionally sighted. The conservation plan for the schedule I species has been obtained from the project proponent
- Schedule-I species viz. Python, Monitor Lizard and Peafowl have been observed in the core

zone and buffer zone. The conservation plan for Schedule-I Species has been prepared by PP but neither its receiving nor the approval from the competent authority is submitted.

- Air Monitoring: The number of sampling locations are 09. The result indicates that values of PM10 are in the range of 55.8 µg/m³ to 138.7 µg/m³, whereas the PM2.5 are in the range of 5 µg/m³ to 33.6 µg/m³. The SO₂ concentrations within the study area are in the range of 5 µg/m³ to 25 µg/m³ and the NO_x in the range of 5 µg/m³ to 33.6 µg/m³. The observed pollutant levels were compared with CPCB National Ambient Air Quality Standards & Standards for Coal Mines issued by MoEF&CC, GSR-742 E dt. 25.09.2000 and found to be under standards.
- The incremental increase values were projected to be 10.43 µg/m³ for PM10, 1.1 µg/m³ for PM2.5, 0.79 µg/m³ for SO₂, and 3.14 µg/m³ for NO_x. The value of total GLC is 148.63 µg/m³ for PM10, 54.1 µg/m³ for PM2.5, 23.89 µg/m³ for SO₂, and 35.74 µg/m³ for NO_x.

26.1.4 *The EAC, after deliberations observed that instant project is for Environment Clearance under violation category as per Ministry's Notification dated 14th March, 2017 and noted that life of mine is 5 years. This is very old project and was started in 1958 by both opencast and underground mining. The project lies in Severely Polluted Area of Hazaribagh wherein stringent measures for mitigation of environment pollution is required and asked PP to gather information on state action plan regarding reducing the CEPI score and accordingly designed its EMP measures. It was found that the baseline monitoring carried out during October to December, 2020 was not properly conducted in terms of ground water quality. Also, there was discrepancy in data of form # 2 filled by consultant.*

EAC while discussing plan of OB dumping, observed that the OB dump is lying close to the Damodar river and PP has planned to progress of OB dump towards the Damodar River. EAC desired that no further dumping of OB shall be placed towards Damodar river and adjacent mine void shall be filled. EAC further enquired about the status of stage II clearance of the forest area and it was noted that PP has reported the stage-I clearance, which is more than mine lease area. PP was not able to respond properly. Inadequate plantation was found along the boundary of the coal mine.

Further, EAC also asked about the installation of CAAQMS and piezometer at site, for which PP provided a deadline of March, 2022. Based on submission of PP, EAC asked PP to revise the EMP budget and provide the break- up of CER activity too, along with time bound action plan to address public hearing issues with proper budgetary provision. EAC also noted lack of commitment of PP in supplying drinking water to nearby villages, as one issue raised in public consultation. 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.

Based on above, EAC desired following information from PP for further deliberations:

- (i) PP shall revise damage assessment and its remedial action plan for violation of over production as suggested by EAC on following points;*
 - a. The total damage cost mentioned in the EIA report is 17.55 crores; whereas in the presentation (ppt) the total is Rs.3.49 Crores. The air damage cost in EIA report is Rs.15.28 crores, for a total emission quantity of PM₁₀ is 61,710 KG. Whereas the PPT shows a total emission quantity of (PM₁₀+ PM_{2.5}) is 11,988 KG (Approx) for 3 years only. PP to explain the difference and shall submit the revised quantity with cost.*
 - b. Total water balance incorporating the monsoon period water shall be submitted*
 - c. Cost saved in EMP for 16 years and 3% of it shall be considered in CRAP.*
 - d. Net profit accrual shall be revised with certification from finance department and 3% of same shall be added to CRAP*
 - e. Net profit accrual shall be revised besides revising the amount to be allocated to CRAP.*
 - f. The damage assessment cost of surface water must also be included as the impact on river as streams cannot be neglected.*
 - g. Damage cost for GW abstraction considering the above factor shall be revised*
 - h. The activities enumerated under Remediation, NRAP and CRAP shall be revised based on the need based survey and further shall be specific, monitor able besides revising the target period to two years.*
- (ii) PP shall clarify the area of forest clearance for land involved in the project with certified map of project area from Forest Department.*
- (iii) PP shall submit Status of Credible action taken by Project Proponent by State Government*
- (iv) 300 KLD of domestic water usage shows the consumption by colony, provide the details pertaining to sewage treatment, rain water harvesting and solid waste management as per SWM 2016 rules.*
- (v) PP shall revise Mine plan including Mine Closure Plan by considering OB dumping in adjacent mine void (currently filled with water) and further no increase in OB dump towards Damodar river shall be included in it. Current distance from HFL of river to OB dump should be submitted.*
- (vi) PP shall submit action plan for plantation along peripheral boundary with allocated budget and timeline.*
- (vii) PP shall provide proof of installation of CAAQMS with picture and online data linked with CPCB and SPCB and further data of piezometer should be shown.*
- (viii) PP shall provide the receiving of Wildlife Conservation Plan for Schedule-I species and breakup of the proposed activities with budgetary provision submitted to the DFO.*
- (ix) PP shall update mine closure activity already conducted and to be pursued for final mine closure as life of mine is 5 years. Also, Mine closure status of underground mining activity of this mine.*
- (x) Plan of action and allocated fund for maintenance and services to provide drinking water pipeline with fittings to the nearby villages with installed RO for 10 years.*

- (xi) *PP shall recheck and re-monitor the water quality of surface water i.e nallahs/streams and Damodar river in vicinity of the project area*
- (xii) *Protection measures for the streams/nallahs from the lease area to Damodar river. The PP must take inputs by other consultant (third party) regarding the river conservation plan of Damodar River.*
- (xiii) *Time bound action plan with budgetary provision for commitment made on the issues raised during public hearing in both the districts.*
- (xiv) *PP shall submit the consent letter from the panchayat for the stretch required by the villagers on actual need base survey and to provide pucca road to them with proper budgetary implementation and time bound action of 2 years was to be followed*
- (xv) *PP to submit the revised EMP cost and the breakup of activity proposed in CER*

*The proposal is **deferred** on above lines*

Agenda No. 26.2

Urimari Expansion OCP from 1.3 MTPA to 2 MTPA / 2.5 MTPA (N/P) in an ML area of 243.09 ha of M/s Central Coalfields Ltd located in District Hazaribagh (Jharkhand)- For Extension of Validity of Environmental Clearance – reg.

[Online Proposal No. IA/JH/CMIN/237311/2021; File No. J-11015/369/2007-IA.II(M)]

26.2.1 The proposal is for extension in validity of Environment Clearance to Urimari Expansion OCP from 1.3 MTPA to 2 MTPA / 2.5 MTPA (N/P) in an ML area of 243.09 ha of M/s Central Coalfields Ltd located in District Hazaribagh (Jharkhand).

26.2.2 The EAC during deliberations noted the following:

- Earlier, the Environment Clearance to the project was obtained under EIA Notification, 2006 vide Ministry's letter No. J-11015/369/2007-IA.II (M) dated 16th February, 2011 for 2.5 MTPA Peak. Life of the project is 10 years in the EC letter.
- PP had applied for extension in validity of EC and accordingly EAC during its 12th meeting held on 4th May, 2021. Further, while processing the file in the Ministry and in view of Ministry's notification dated 18th January, 2021, it was communicated to PP that EC is valid till 15th February, 2022 and also issued show-cause notice to PP for various non-compliance of EC conditions.
- Reply of showcase was submitted by project proponent and Ministry after deliberation on showcase desired that PP must assess the Environment damage due to non-compliance and impose it as a deterrence before further action.
- Now, PP has requested for again for extension in validity of EC as per EIA Notification, 2006 The extension in validity of EC has been applied since PP was not able to achieve its rated peak

capacity of 2.5 MTPA in most of the years of its mine life so the balance reserve left in the mine as on 14.02.2022 is about 3.91 MT and proposed for extension in validity of Environment Clearance for two more years i.e. upto 15.02.2024.

- The revised mine plan & mine closure plan of Urimari OCP was approved in the 489th Board meeting of CCL held on 13.08.2020 for extraction of the balance reserve
- The Certified Inspection Report of IRO Ranchi, MoEF&CC dated 14.01.2022 is furnished by PP and the Action taken in respect to the partially complied or non-complied conditions is also provided.
- It has been submitted that as per post Mining landuse plan, around 176.32 ha will be reclaimed with plantation and 39.66 ha of mine void will be left void filled with water.

26.2.3 *The EAC, after deliberations observed that instant proposal is for extension in validity of EC. Since there was various non-compliance of EC conditions, Ministry informed that PP has to assess the Environment damage due to these non-compliances and extraction of ground water without necessary permission from Central Ground Water Authority. EAC desired that PP shall conduct damage assessment within six months and submit it to Ministry's IRO. The recommendation of damage assessment shall be complied within 2 years. The flow in potanga nallah/stream needs to be monitored regularly and distant of OB should be maintained at 50 mts . IRO-Ranchi report dated 14th January, 2022 also showed non-compliance of EC conditions regarding road transportation causing pollution, no wind shield along Saunda-B railway siding, non-implementation of surface miner, inadequate plantation along the periphery of coal mine boundary and non-submission of impact of CSR and R&R*

It was further observed that mine closure activity is not being properly followed. The total forest land involved in the project is about 108.71 ha to be reclaimed and returned to the concerned forest department at the end of mining activity. EAC desired that the PP to plant trees in 40 Ha area with consent to forest department with 50 % of SAL trees.

On enquiring about the smoke and fire in the mine lease area, the PP informed that a proper measure has been taken and no smoke can be seen now. The EAC asked PP to build STP in the colony instead of soak pit. It was mandatorily advised by EAC that the compliance of existing EC and mine closure activity must be the priority of the PP and its status must be furnished with the six monthly compliance report submitted to state pollution control board and IRO.

Further, based on documents and facts submitted by PP, EAC recommended the extension of validity of Environmental Clearance to Urimari Expansion OCP from 1.3 MTPA to 2 MTPA / 2.5 MTPA (N/P) in an ML area of 243.09 ha of M.s Central Coalfields Ltd located in District Hazaribagh (Jharkhand) for a period of 2 years (i.e up to 14.02.2024 from the date of expiry mine life), under the provisions of EIA Notification, 2006 and its amendments therein with following specific condition for environmental safe guards:

- (i) *PP shall submit the compliance of all the EC conditions vide No. J-11015/369/2007-IA.II(M) dated 16th February, 2011 and the status to be furnished with six monthly compliance report submitted to the State pollution Control Board.*
- (ii) *PP shall assess the Environment damage due to non-compliances of EC conditions and extraction of ground water without necessary permission from Central Ground Water Authority from independent expert within six months and submit it to Ministry's IRO. The recommendation of damage assessment shall be complied within 2 years.*
- (iii) *PP shall conduct third party audit of compliance of EC condition at an interval six months and its report shall be submitted to IRO-Ranchi.*
- (iv) *PP to complete the activities as per proposed the CSR budget for year 2021-22 for an amount of Rs 200.0 lakhs*
- (v) *PP shall complete construction of approach road to Saunda B Railway Siding by black topping and regular cleaning with dust sweeper machine.*
- (vi) *PP shall install 10 mtrs height of wind shield all along the Saunda B Railway siding within six months of issue of this letter.*
- (vii) *PP shall complete North Urimari Railway Siding as per conditions stipulated in EC of North Urimari and transport coal from Urimari OCP to North Urimari Railway siding. No Further transportation of coal should be transportation after commencement of North Urimari Railway siding.*
- (viii) *PP shall develop 2 water harvesting pond near the villages of suitable area as suggested by Gram Panchayat within 1 year*
- (ix) *PP to reclaim the 108.71 Ha of forest land by December, 2022 the plantation of tress in 40 Ha with consent to forest department planting 50 % of the SAL trees and PP must seek the responsibility of maintaining plantation least 10 years*
- (x) *PP to develop STP in the colony within 1 year from the date of issue of this letter. PP shall obtain separate CTO for STP in the colony.*
- (xi) *The status of mine closure activities must be included in every six months compliance report submitted to the state pollution control board and IRO*
- (xii) *PP to plant 100,000 plants with three tier plantation along the haul Roads and identified areas with consent to the gram panchayat within one year and take care for rest of the 3 years for their proper survival.*
- (xiii) *PP to maintain the topped haul road properly to minimized the dust emission. PP to also develop pucca roads by seeking consent from the panchayat with widening of roads especially roads inter linking the villages within the study area of 10 km radius buffer zone.*
- (xiv) *PP to install solar lights along the road used for transportation of minerals to avoid the accidents at night and also seek its maintenance. PP is asked to also identify the rural areas for installation of solar light with its maintenance within the study area of 10 km radius buffer zone within one year*
- (xv) *PP to provide bio toilets to the villages located within the study areas within 1 year from the grant of this EC*
- (xvi) *PP shall install fixed fog cannon (mist spayer) and fixed sprinkler all along the haul road till*

CHP, Railway siding and OB Dump area and accordingly sufficient number of fog cannons (not less than 10 nos.) with 40 mts jet length shall be installed within 6 months. It should be ensured that air pollution level confirm to the standards prescribed by the MOEFCC/CPCB

- (xvii) Persons of nearby villages shall be given training on livelihood and skill development to make them employable with its proper records.*
- (xviii) The illumination and sound at night at project sites disturb the villages in respect of both human and animal population. Consequent sleeping disorders and stress may affect the health in the villages located close to mining operations. Habitations have a right for darkness and minimal noise levels at night. PPs must ensure that the biological clock of the villages is not disturbed; by orienting the floodlights/ masks away from the villagers and keeping the noise levels well within the prescribed limits for day light/night hours*
- (xix) PP shall pay to farmers of agricultural land if there is any loss due to pollution found by concerned District Commissioner as per extent rules or norms*
- (xx) Hon'ble Supreme Court in an Writ Petition(s) Civil No. 114/2014, Common Cause vs Union of India & Ors vide its judgement dated 8th January, 2020 has directed the Union of India to impose a condition in the mining lease and a similar condition in the environmental clearance and the mining plan to the effect that the mining lease holders shall, after ceasing mining operations, undertake re-grassing the mining area and any other area which may have been disturbed due to their mining activities and restore the land to a condition which is fit for growth of fodder, flora, fauna etc. Compliance of this condition after the mining activity is over at the cost of the mining lease holders/Project Proponent". The implementation report of the above said condition shall be sent to the Regional Office of the MoEF&CC.*

Agenda No. 26.3

Expansion of Rohini Opencast Coal Mine with production capacity of 3.30 to 4.05 MTPA (increase of 0.75 MTPA) with increase in mine lease area from 255.68 ha to 272.55 ha (increase of 16.87 ha) land by M/s Central Coalfields Limited at village Karkatta, Nawadih and Tumang, Tehsil Khalari, District Ranchi (Jharkhand) - For Amendment in Terms of Reference-reg

Online proposal No. IA/JH/CMIN/253696/2022; F No. J-11015/227/2007-IA.II(M)]

26.3.1 The proposal is for Amendment in Terms of Reference of Expansion of Rohini Opencast Coal Mine with production capacity of 3.30 to 4.05 MTPA (increase of 0.75 MTPA) with increase in mine lease area from 255.68 ha to 272.55 ha (increase of 16.87 ha) land by M/s Central Coalfields Limited at village Karkatta, Nawadih and Tumang, Tehsil Khalari, District Ranchi (Jharkhand).

26.3.2 The EAC during deliberations noted the following:

- Rohini OCP (3.0 MTPA / 3.3 MTPA & 255.68 Ha) is an existing project has obtained

environmental clearance obtained for 3.30 MTPA within 255.68 Ha. from MoEFCC vide letter no: J-11015/227/2007-IA-II (M) Dt. 21.02.2017.

- Terms of Reference for expansion proposal was granted by Ministry on 22nd December, 2021 for increase in area from 255.68 ha to 272.55 ha (i.e. increase of 16.87 ha) and production capacity from 3.3 to 4.05 MTPA. Now Project proponent has requested for amendment in Terms of Reference for reducing the production capacity from earlier proposal from 4.05 MTPA to 0.75 MTPA.
- As the mineable reserves within the EC boundary of Rohini OCP is on the verge of exhaustion, it has been planned to exploit coal from 16.87 Ha. of area within the Karkatta block and falling outside the EC Boundary of Rohini OCP.
- A revised mining plan and mine closure plan of Rohini Expansion OCP has been prepared for a rated capacity of 0.75 MTPA within the project area of 272.55 Ha. and subsequently obtained approval from CCL Board in its 506th meeting held on 31.08.2021.

26.3.3 The EAC, after deliberations observed that earlier PP had submitted ToR for 4.05 MTPA and now they are proposing to decreasing substantially the production capacity to 0.75 MTPA within area of 272.55 ha. It was informed that reserves in previous land has been exhausted and therefore additional land is being acquired. In this regard, EAC noted that no mine closure activity has been conducted by Project Proponent and also EAC ascertained that amendment is being requested detach with existing mine and seems to delink the closure activity with new proposal. Finding this fact, the committee was of the view that the earlier TOR dated 22.12.2021 shall remain applicable and PP must prepare the EIA-EMP with mine closure activity, even with reduced production.

In view of above, EAC didn't agree with proposal of project proponent to reduce the production capacity and asked PP to stick to earlier proposal.

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

Agenda No. 26.4

Bikram Opencast cum Underground Coal Mine with production capacity of 0.36 MTPA in an ML Area of 239 Ha by M/s Birla Corporation Limited in Villages Bartara and Gopalpur, Tehsil Burhar, District Shahdol (Madhya Pradesh) – For Environmental Clearance- reg.

[Online proposal No. IA/MP/CMIN/185753/2020; IA-J-11015/23/2020-IA-II(M)]

26.4.1 The proposal is for Environment Clearance to Bikram Opencast cum Underground Coal Mine with production capacity of 0.36 MTPA in an ML Area of 239 Ha by M/s Birla Corporation Limited in Villages Bartara and Gopalpur, Tehsil Burhar, District Shahdol (Madhya Pradesh)

26.4.2 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 Toposheet No 64 E/12 and 64E/8 and is bound by the geographical coordinate's ranging from Latitude 23°11'04"N to 23°11'32" N and Longitudes 81°28'42" E to 81°31'02" E.
- (ii) Coal linkage of the project is proposed for captive use for Company's Own Integrated Cement & Power Plants located at Satna (Madhya Pradesh) and/or Chanderia (Rajasthan) and other plants of the company with provision of partial sale.
- (iii) Project does not fall in any Critically Polluted Area (CPA), where the MoEF&CC's vide its OM dated 13th January, 2010 has imposed moratorium on grant of environment clearance.
- (iv) Employment generation, employment to 701 persons (305 for opencast & 396 for underground mine) persons will be provided from the project.
- (v) The project is reported to be beneficial in terms of employment opportunities (direct as well as indirect), Infrastructure & other social development, and overall development of area and country etc.
- (vi) This is a greenfield project. Environmental clearance is yet to be issued under EIA Notification 2006 and amendment made thereunder, for 0.36 MTPA coal production by opencast and underground coal mine in mine lease area of 239 ha.
- (vii) Standard Terms of Reference of the project was granted by Ministry on 16.12.2020.
- (viii) Total mining lease area as per block allotment is 239 ha. Mining Plan (Including Progressive Mine Closure Plan) has been approved by the Ministry of Coal, Government of India on 18.04.2011.
- (ix) The land usage pattern of the project is as follows:

Pre-mining land use details (Area in Ha)

Sl. No.	Land use	Within ML area (ha)	Outside ML area (ha)	Total (Ha)
1.	Agricultural Land	76.841	0.00	76.841
2.	Forest land	151.095*	0.00	151.095
3.	Waste land	4.167	0.00	4.167
4.	Grazing land	-	-	-
5.	Surface Water Bodies	-	-	-
6.	Settlements	-	-	-
7.	Other			
	• (Pond, Road, School etc. (Govt. Land))	6.521	0.00	6.521
	• Boundary (Merh)	0.376	0.00	0.376

	Total	239	0.00	239
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Note-*(Revenue forest 9.020 ha+ Reserved Forest 142.075 ha)

Post Mining:

No.	Land use during Mining	Land Use (Ha)				
		Plantation	Water Body	Public Use	Undisturbed	Total
1.	External OB Dump	0	0	0	0	0*
2.	Topsoil dump	3	0	0	0	3
3.	Excavation	79.53	39.07	0	0	118.6
4.	Roads	0	0	3	0	3
5.	Built-up areas	2.00 [#]	0	0	0	2.00
6.	Green belt	6.89	0	0	0	6.89
7.	Safety Zone	-	-	-	-	-
8.	Undisturbed Area	0	0	0	103.91	103.91
9.	Surface water reservoir	0	1.60	0	0	1.60

Note: *11.8 ha was on mineral bearing area, re handled & backfilled by 10th year

Facilities area

- (x) Total geological reserve reported in the mine lease area is 22.016 MT and 18.078 MT are mineable reserve. Out of total mineable reserve of 18.078 MT, 9.85 MT are available for extraction. Percent of extraction is 45 %.
- (xi) The annual production of the mine is proposed as maximum 0.36 MTPA, out of which opencast mining will be carried out for 23 years @ 0.16 MTPA and underground mining for 33 years @ 0.2 MTPA.
- (xii) Seven coal seams with thickness ranging from 0.90 m to 4.0 m are workable. Grade of coal is D/G7, stripping ratio 9.8:1, while gradient is 0 to 6 degree.
- (xiii) Method of mining operation is envisaged by both opencast by shovel dumper with hydraulic excavator as well as underground method by bord and pillar method.
- (xiv) Life of mine is 33 years.
- (xv) The project has one temporary surface OB dumps inside lease in an area of 11.8 ha with 50 m height and 1.78 Mm3 of OB. At the end of OC mining operation after 23 years internal OB in an area of 79.53 ha with 36.09 Mm3 of OB backfilling is envisaged in the project.
- (xvi) Total quarry area (in opencast) is 118.60 ha out of which backfilling will be done in 79.53 ha while final mine void will be created in an area of 39.07 ha with a depth of 60 m. Backfilled quarry area of 79.53 ha shall be reclaimed with plantation. Final mine void will be converted into water body.

- (xvii) Transportation of coal has been proposed by Tippers from OC pit to the pit head stockpile. The coal from UG mine will be brought out by conveyors and lead to a surface bunker/ stockpile. From surface, coal will be transported by road or road cum rail to company's own plants.
- (xviii) Reclamation Plan in an area of 91.42 ha, comprising of 3.0 ha of top soil dump, 79.53 ha of internal dump/ backfilled dump, 6.89 ha green belt and 2.0 ha of facilities.
- (xix) 151.095 ha of forest land has been reported to be involved in the project. Approval under the Forest (Conservation) Act, 1980 for diversion of 151.095 ha of forest land for non-forestry purposes has been initiated & revived vide proposal no. FP/MP/MIN/49537/2020 dated 09/09/2020 and the proposal is recommended by state Government on 20.12.2021 and the proposal is under process at MoEF&CC, New Delhi.
- (xx) There are no National Parks, Wildlife Sanctuaries and Eco-Sensitive Zones fall within 10 km boundary of the project.
- (xxi) Wildlife conservation plan for schedule – I species has been submitted for seeking comments from the CWLW of the State Govt. vide letter no. BCL/Bikram/FC/06/21, dated 03.04.2021. Comments from CWLW is awaited.
- (xxii) The ground water level has been reported to be varying between 2.2 to 13.0 m during pre-monsoon and between 1.75 m to 10 m during post-monsoon. Total water requirement for the project is 234 KLD (potable water 34 KLD & industrial water 200 KLD).
- (xxiii) NOC for ground water abstraction has been obtained vide NOC no. CGWA/NOC/MIN/ORIG/2021/12093 issued on 17/06/2021.
- (xxiv) Public hearing for the project of 0.36 MTPA capacity in an area of 239 ha was conducted '[n 29.09.2021 at Govt. Middle School, Gopalpur, Village - Gopalpur, Tehsil Burhar District Shahdol, Madhya Pradesh under the Chairmanship of Addl. District Magistrate, Shahdol. Major issues raised in the public hearing include employment opportunity, provision of health care, drinking water & education, infrastructure development, pollution control measures, etc. Appropriate action to address the issues raised in the Public hearing have already been proposed to be taken are as submitted with basic information sheet.
- (xxv) Consent to Establish (CTE) shall be obtained after issuance of environmental clearance.
- (xxvi) Not any River/nalla (perennial) is flowing within boundary of lease. Thus, no nala diversion is proposed.
- (xxvii) Regular monitoring of ambient air quality shall be carried out on fortnightly basis. The documented report shall be submitted to Regional Officer, MPPCB, Member Secretary, MPPCB and also to MoEF&CC along with half yearly EC compliance report.
- (xxviii) No court cases, violation cases are pending against the project of the PP.
- (xxix) The project does not involve violation of the EIA Notification, 2006 and amendment issued there under. The coal production from the mine has not been started.
- (xxx) The project involves approximately 358 project affected families. Detailed survey are underway and data may get updated. R&R of the PAPs will be done as per Madhya Pradesh Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Rules, 2015.
- (xxxi) Total cost of the project as on date is about Rs. 289.45 Crores. Cost of production is Rs 2479

per tonne., CSR cost will be 2% of the average profit of three years as per Companies Act, R&R cost will be as per the R&R Plan. Capital and recurring Environment Management Cost is Rs. 15.40 crore (capital) and Rs. 5.62 Crore per year (recurring).

(xxxii) Past Production details comparison with existing EC- Not applicable since project is yet to be implemented and no coal production has been there in the past.

26.4.3 The EAC during deliberations noted the following:

- The consultant Min Mec Consultancy Pvt. Ltd., New Delhi is the petitioner under the court case in High court of Delhi at New Delhi however prepared and presented report as per the High court of Delhi order in LPA No 110/2014 and CM No 2175/2014 and in W.P. (C) 3665/2016
- Ministry of Coal, Government of India vide their vesting order no NA-104/5/2019-NA, dated February, 10, 2020 has allotted the Mine in favour of M/s Birla Corporation Limited as a successful bidder under clause (b) of sub-rule (2) of rule 7 and sub-rule (1) of rule 13 of the Coal Mines (Special Provisions) Rules 2014 read with clause (b) of sub-section (3) of Section 6 and sub-section (3) of Section 8 of the Coal Mines (Special Provisions).
- The peak production of coal will be 0.36 MTPA (OC +UG) and of OB removal from OC mine will be maximum 3.03 MTPA in 2nd year & thereafter it goes on decreasing till 6th year, from when it becomes 1.5 Mcum/annum till 20th year.
- The coal production from opencast and underground mine will be as follows: → Opencast: 0.36 MTPA in 2nd year & then @ 0.16 MTPA → Underground: 0.20 MTPA (3rd year onwards)
- LOI has been obtained vide letter No F 3-7/ 2020/12/2 dated 16.09.2021 with validity of 30 years
- The total forest land involved is 151.95 Ha for which application for FC had been filed but it is also seen that other than this 4.519 ha of private forest land is also falling within the mine lease
- The baseline environmental data has been collected during summer season in accordance with the statutory requirement. The data collection was started from 1st March 2020 but due to Covid-19 lockdown, few air quality samples could not be collected for the lockdown period (24.03.2020- 20.04.2020). Hence, the air quality data collection along with micro meteorology was extended till 18th June 2020, where after the monsoon rain commenced and monitoring could not be continued. A total of 24 samples/ location could be collected, equivalent to 3 months' data.
- The study area does not form a part of the migratory corridor of any endangered fauna. The study area has endangered fauna in form of Indian rock python. A Conservation Plan has been prepared and application has been submitted for seeking comments from the CWLW of the State Govt. vide letter no. BCL/Bikram/FC/06/21, dated 03.04.2021. Thereafter, a letter from CWLW was issued on 31.05.2021 for additional details and submission of processing fee. The processing fee have been submitted by Birla Corporation vide letter dated 14.07.2021. Thereafter, DFO, Shahdol submitted required details to Chief Forest

Conservator on 14.01.2022

- Public hearing for the project was conducted in 29.09.2021 at Govt. Middle School, Gopalpur, Village - Gopalpur, Tehsil Burhar District Shahdol, Madhya Pradesh under the Chairmanship of Addl. District Magistrate, Shahdol. Major issues raised in the public hearing include employment opportunity, provision of health care, drinking water & education, infrastructure development, pollution control measures, etc.
- Monitoring:
 - Air Monitoring: The number of sampling locations are 08. The result indicates that values of PM10 are in the range of 42.1 µg/m³ to 68.0 µg/m³, whereas the PM2.5 are in the range of 22.6 µg/m³ to 41.0 µg/m³. The SO₂ concentrations within the study area are in the range of 5.9 µg/m³ to 14.9 µg/m³ and the NO_x are in the range of 8.0 µg/m³ to 17.8 µg/m³. The observed pollutant levels were compared with CPCB National Ambient Air Quality Standards and found to be under standards.
 - The incremental increase in the values were projected to be 7.26 µg/m³ for PM10, 2.44 µg/m³ for PM2.5, 1.05 µg/m³ for SO₂, and 2.10 µg/m³ for NO_x. The value of total GLC is 75.26 µg/m³ for PM10, 43.44 µg/m³ for PM2.5, 15.95 µg/m³ for SO₂, and 19.90 µg/m³ for NO_x.
 - Surface water Monitoring: The number of sampling locations were 4 i.e Son River near Jiwahi, Pond in ramsagar near Bimhauri, Baisaha Nala near Khairaha and Nagara nala near Dhanpuri. The pH was 6.93 and 6.72, Total hardness was 136 mg/l and 124 mg/l, D.O. is 7.5 & 7.2 respectively.

26.4.4 *The EAC, after deliberations found that instant proposal is for opencast cum underground coal mining project. The consultant engaged for conducting EIA/EMP does not have NABET accreditation and is working on the basis of Stay order in the matter of Order dated 03.02.2014 in LPA 110/2014 and CMNo. 2175/2014(stay) and Order dated 03.05.2016 in W.P.(C) 3665/2016 and C.M. No.15699/2016(stay).*

The project has not obtained Stage-I FC for diversion of forest land into non-forestry activity. EAC opined that Ministry of Coal has approved opencast mining for just 3.758 MT having 9.08 cum/ton of OB generation which will lead to deforestation of about 100 ha of forest land. It was desired that MoEF&CC may advise Ministry of Coal to look into the cost benefit analysis in terms of value of reserve forest vis-à-vis coal reserve before approving such Mine Plan. Further, EAC desired that Ministry's FC Division may be communicated regarding above facts for taking necessary decision during diversion of Forest land.

It was also found that 7 to 8 ponds are located nearby and within the mine lease area so EAC had recommended to protect those ponds with proper safety zone and its quality check. One is located at North eastern boundary, two are located within the mine lease and three are located near to the western boundary and one near the Batara village at north western boundary. Further estimated CSR budget with proper bifurcation is not provided by PP in EIA /EMP reports so EAC suggested to

provide it with annual time bound action plan. The transportation of coal is proposed by road which is passing by dense habitation located on both side of the road. It was desired that fleet size shall be optimized by increasing the size of dumpers/trucks. PP has proposed to construct two roads i.e. Mine Exit -1 and 2 and it will have connected to T1 wherein Burhar Railways siding is present and other is to Chhadda Railway siding (connected by T1, T2 and T3). It was desired that PP shall transport coal only till Burhar Railway siding by road and accordingly plan with optimization of fleet size should be submitted. In EMP it was found that 20 Lakhs was provided for construction of garland drains which was not adequate. The water sprinkler was only provided as EMP measures for dust control so EAC recommended to use fog cannon, jet spray, mobile sprinklers etc.

In view of above, EAC desired following information from PP:-

- (i) PP shall submit details of capital and recurring cost of the project/activities listed in EMP with allocated budget as per DPR of all proposed activities. Accordingly, EMP should be revised.*
- (ii) PP shall submit details of addressing the issues raised in public hearing with specific action plan, timeline and fund allocation.*
- (iii) PP shall submit time bound action plan with its budgetary provision for green belt development with three tier (atleast 50 mts width), preferably plantation of Sal species with nursery.*
- (iv) PP shall change the mining sequence and land use patter so that no forest land shall be used for OB Dump, infrastructure, any other non-essential activities etc.*
- (v) PP shall submit stage wise mine operation of opencast and accordingly plan of development of afforestation with requisite allocated fund.*
- (vi) PP shall submit list of species of flora and fauna vetted by DFO based on primary survey*
- (vii) PP shall submit justification of carrying the open cast mining wrt carbon foot print and carbon sink of the existing forest area for next 10 years and with compensatory provisions.*
- (viii) PP shall submit the details of habitation (within 100 mts of both side road ends) along with road route and width of road till Burhar Railway siding and Chhadda Railway siding.*
- (ix) PP shall submit plan for transportation of coal only till Burhar Railway siding and optimize the fleet size (size of dumpers/trucks). Further timeline of construction of Mine exit-1 and exit 1 and its DPR shall be submitted.*
- (x) PP shall provide an elaboration on Environmental cost benefit analysis with reference to the open cast mining instead of underground or to leave that reserve of coal as it is.*
- (xi) PP shall submit plan for construction of Sewage Treatment Plant for its employees at proposed colony.*
- (xii) PP shall submit Social Impact Assessment & Management Plan in line with the Form B and Form C under Rule 5 of Madhya Pradesh Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Rules, 2015.*
- (xiii) PP shall upload a copy of approved Mining plan include Mine Closure Plan on PARIVESH Portal.*

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

Agenda No. 26.5

Basundhara (West) Extension OCP of 8.75 MTPA capacity in a mine lease area of 323.92 ha by M/s Mahanadi Coalfields Limited located in village(s) Gopalpur (Part) and Ratansara in Tehsil Hemgir, District Sundergarh (Odisha)– For Reconsideration of Environmental Clearance – reg.

[Online Proposal No. IA/OR/CMIN/63468/2017; F. No. J-11015/26/2017-IA-II(M)]

26.5.1 The proposal is for Environmental Clearance to Basundhara (West) Extension OCP of 8.75 MTPA capacity in a mine lease area of 323.92 ha by M/s Mahanadi Coalfields Limited located in village(s) Gopalpur (Part) and Ratansara in Tehsil Hemgir, District Sundergarh (Odisha).

26.5.2 Earlier, the project was deliberated on 52nd EAC meeting held on 24th January, 2020 for grant of Environmental Clearance wherein EAC desired certain information and the proposal was returned in present form due to large number of deficiencies. Also, site visit was proposed to be conducted, however due to Covid-19 site visit could not be completed. PP has now submitted the compliance of observations of EAC and provided additional information which are enlisted below:

S. No.	Observation of EAC	Reply by PP
1	Brief Compliance of each ToR conditions and further referencing for details of compliance shall be provided correctly	Brief compliance of each ToR condition has been further detailed out with reference and incorporated in revised EIA/EMP.
2	Form#2 on Parivesh should be filled with all details and correct information	Revised Form 2 has been filled in PARIVESH portal with new proposal number.
3	Stage-I FC for forest land of 227.62 ha for diversion of non-forestry activity shall be submitted.	Total Forest land involved in proposed project is 227.62 Ha. Form A part I application has been submitted on 22.07.2016. DGPS survey of CA land has been completed. Form A Part II will be submitted by Feb 2022.

4	Carrying capacity of the region shall be carried out considering the presence of the other coal mines and mitigation measures shall be proposed accordingly from recognised institutes	<p>Carrying capacity of the region has been done considering various environmental components i.e. air, water, noise, land etc. was furnished by PP. It has concluded that baseline data of PM10 and PM2.5 are already high and therefore additional mitigation measures has to be adopted by MCL.</p> <p>Further, Source Apportionment study was conducted and in coal mines 70-80% pollution of particulate matters in buffer zone is due to coal transportation. Scenario of transportation of coal during 2017-18 and 2019-20 after implementation of control measures.</p> <p>The assimilative capacity with control measures varies at different villages but it seems to be near to NAAQS value.</p> <p>Proposed mitigation measures are very long term in nature</p>
5	Values of PM10 are reported to be high. PP shall be present mitigation measures to reduce PM10 in details.	Baseline data of proposed project was generated during the period Nov'17 to Jan'18 This is a new mine therefore the existing higher values is due to the presence of nearby running mines e.g. Kulda OCP, Garjanbahal OCP and existing Basundhara(W) Expn. OCP. Therefore, a cumulative infrastructural reform has been proposed as a mitigation measure to reduce the values of PM10 and a detail EMP was also provided by PP
6.	River Conservation Plan along with fund and timeline shall be prepared to protect pollution of Basundhara River	A detailed River conservation plan for Basundhara river has been prepared along with mitigated action plan and budgetary provision
7	Ground Water Recharge Estimation of buffer zone shall be done as per guidelines of GEC 2015 instead of 1997 guidelines	Incorporated in revised EIA/EMP
8	Air Quality modelling of pollutant NOx is shall be submitted vis-à-vis its impacts/mitigation measure	Air Quality Impact Prediction of NOx has been done for incremental 8.75 Mty Coal and 11.05 OB Mm3 OB. In coal mining major source of pollution is particulate matters whereas NOx is only generated due to consumption of fuel in mining operations. The same has been taken into

		consideration for prediction of NO ₂ due to proposed mine
9	Clarification and confirmation from District Forest Officer that no presence of Tiger/or any wildlife corridor were found in the said area of coal mine/forest area considering Sanjay National Park	Clarification and confirmation from District Forest Officer that no presence of Tiger/or any wildlife corridor were found in the said area of coal mine/forest area considering Sanjay National Park has been received vide letter no.690/4f (Misc.)/2020 dated 11.02.2021 was provided
10	List of species of flora and fauna shall be vetted by DFO after conducting primary survey of buffer zone	List of species of flora and fauna vetted by DFO after conducting primary survey of buffer zone vide letter no. no.5239/4f (Misc.)/2021 dated 25.10.2021
11	EIA report shall include details of Project displaced families or Project displaced person. Detailed Break up of activities of R&R and CSR shall also be included EIA report shall include details of Project displaced families or Project displaced person. Detailed Break up of activities of R&R and CSR shall also be included	Detailed Project displaced families or Project displaced person along with detailed break up of activities of R&R and CSR has been incorporated in revised EIA/EMP
12	Impact and Mitigation measures of transportation of coal by road from coal mine to desired destination (linked railway siding or linked Power Plant) shall be included in EIA Report.	The production capacity of proposed Basundhara (W) Extn. OCP is 8.75 MTPA. All the produced coal will be dispatched through the Sardega Siding, which is around 1.2 km away from Mine lease area. To know the impact of transportation of coal through siding a separate modelling has been done for Coal Transportation (CT) road of length 3.4 km (out of which only 1.2 km lies outside lease area) including Sardega Siding for business as usual (BAU) and with additional control measures was provided by PP
13	Permission of extraction of ground water intersection/extraction from Central Ground Water Authority shall be taken	Permission of extraction of ground water intersection/extraction from Central Ground Water Authority has been received vide letter no. CGWA/NOC/MIN/ORIG/2020/9349 dated 15.12.2020
14	Details of hazardous waste generation (if any) during mining operations and further handling/disposal shall be provided in details	Details of hazardous waste along with their approx. quantity and disposal method was furnished

15	Impact on villages due to mining activity present in core zone or in buffer zone (not proposed to be displaced) shall be provided.	Core zone of the mine is comprising of two villages namely Ratansara and Gopalpur. Both of these villages will be completely displaced. However to assess the impact over buffer zone villages, those villages have been identified over which the incremental pollution load is $> 5 \mu\text{g}/\text{m}^3$.
16	Proposed plan for development of green belt shall be provided with fund allocated and year wise plantation plan	The detailed year wise reclamation plan along with cumulative plantation of 480624 plants with budgetary provision of 1952.37 Lakhs was provided by PP
17	Management of Top Soil shall be provided as per best environmental procedure and provision of storage of top soil in mine plan shall be produced	Temporary topsoil storage area is shown marked on dip side of the working quarry. From Yr 5 onwards withdrawal of necessary amount of topsoil from the stockpile for re-spreading over the backfilled area is to start
18	The activities and fund provisions for CER shall be made as per the guidelines issued by the ministry regarding CER on 1st May, 2018	As per MoEF&CC's O.M dated 30.09.2020 (F.No. 22-65/2017-IA.III) it was decided that henceforth the Expert Appraisal Committee or State Level Expert Appraisal Committee shall deliberate on the commitments made by the project proponent to address the concerns raised during the public consultation and prescribe specific condition(s) in physical terms while recommending the proposal, for grant of prior environment clearance instead of allocation of funds under Corporate Environment Responsibility Based on above total cost involved in complying public hearing activities as on date is: Rs. 29.01 Cr

26.5.3 The EAC during deliberations noted the following:

- The proposed mine area lies on the western side of Basundhara River and is located in IB valley, which under SPA zone. Adjacent to this project, a project named as Basundhara (West) OC Exp. is an ongoing with remaining life of two years. The instant project i.e Basundhara (West) Extension OCP will replace production of Basundhara (West) OC Expn and therefore, termed as extension with similar title.
- Total 227.62 Ha of forest land is involved in the project for non-forestry activities. Currently Stage-I FC is not obtained from FC Division. Online application for forest clearance has been submitted on 22.07.16 vide ref. no. FP/OR/MIN/20559/2016

- Monitoring: -
 - Number of sampling location monitored is 9. Baseline result indicates that the maximum and minimum values of PM₁₀ are in the range of 98.54 ug/m³ to 60.65 ug/m³ , and PM_{2.5} in the range of 57.80 to 24.77 µg/m³ respectively. Further SO₂ concentrations are in the range of 21.71 to 8.40 µg/m³ and the NO_x are in 34.89 to 11.80 µg/m³. The incremental increase in the values were projected to be 19.18 µg/m³ for PM₁₀, 5.30 µg/m³ for PM_{2.5}, 0.27 µg/m³ for SO₂, and 38.49 µg/m³ for NO_x respectively. The value of Total GLC is 117.60 µg/m³ for PM₁₀, 62.00 µg/m³ for PM_{2.5}, 21.56 µg/m³ for SO₂, and 72.13 µg/m³ for NO_x. The observed pollutant levels were compared with CPCB National Ambient Air Quality Standards and found to be within limit.
 - Number of Surface water monitoring locations is 3 at Basundhara River U/s, Basundhara River D/s & Gaddawar pond water and values of pH varied from 6.9 to 7.0, TDS ranges from 60 mg/L to 80 mg/L, Total hardness ranges between 24 to 32 mg/L. DO ranges between 6.8 to 7.1 mg/L respectively. BOD value is 2 mg/lit.

26.5.4 *The EAC, after deliberations observed that PP has not submitted the compliance of earlier observation specifically to ToR conditions though PP informed that it is incorporated in EIA/EMP report regarding corrective action and remedial measures with regard to the observation of sub-committee. It was observed that the Basundhara West (Extension) is lying in IB valley and though is a green field project but is located adjacent to Basundhara (west) OC expansion from which the PP will also take the required machinery. As the proposed mine is extension of Basundhara (West) OC expansion mine in a new area so EAC enquired about its Life of mine and compliance of its existing EC. The PP informed that the life of mine is almost exhausted on which EAC further ask the PP to furnish the details of mine closure activities of Basundhara (west) OC expansion. Also, clarity is required regarding other projects in the name of Basundhara East and earlier Basundhara (West) expansion.*

EAC also found that the Forest Clearance is not yet obtained by PP and asked to expedite it. EAC further enquired about the OB dump to explore the possibility of the external dump from Kulda, Garjanbahal and Basundhara (West Extension) OC in already existing voids of Basundhara (West) OC expansion mine and can be backfilled.

EAC asked clarification for not considering this project as expansion in lieu to a new mine, as it is named as extension. PP justified that as the Basundhara River was flowing towards the east of the existing Basundhara (West) OC expansion mine so not to disturb it, PP has proposed for the new mine. EAC also observed that PP needs to prepare a proper River Conservation Plan along with fund and timeline as the plan prepared by PP is not satisfactory. The EAC recommend the PP to hire a third party expert (other than CMPDI) for Basundhara River conservation plan and identify its the hot spot in a stretch of least 25 km to assess the impact of each mines of MCL with contribution of

each mine in budget allocation.

Though the carrying capacity of the region has been carried out considering the other coal mines but PP has to draw the conclusion with past CEPI score with state action plan for reducing CEPI score in IB valley by adopting the stringent EMP measures.

EAC noted that adequate evacuation plan is required for group of mines in the area which also include this mine. Finding that there is inadequate submission of PP to provide the compliance to observations of earlier sub-committee and also noting that recently EC for Kulda OCP, Garjanbahal OCP has been granted with upcoming project of 50 MTPA of Siarmal OCP, the EAC proposed for site visit of sub-committee to check the overall environmental scenario of this area as per earlier observation given in Minutes of meeting. This site visit will facilitate in prescribing suitable condition to other projects requiring superior environment protection.

Based on above, EAC desired following information from PP

- (i) Site visit to be conducted by Sub-committee of EAC as early as possible.*
- (ii) PP shall submit mine closure report of Basundhara (West) expansion, Basundhara (East) with pictures and list of activities completed vis-à-vis approved Mine Closure Plan.*
- (iii) PP shall provide the details of methodology adopted for carrying capacity study in Flowchart and specific conclusion derived.*
- (iv) PP shall explore the possibility of filling OB dump of other mines to fill mine void Basundhara (West) & East instead of creating external dump on virgin land.*
- (v) PP shall submit Social Impact Assessment since it is not included in EIA/EMP Report*
- (vi) PP must provide a separate budgetary provision for public hearing with time bound action plan instead of merging it with CER under EMP*
- (vii) A detailed of capital and recurring cost of the project with revision in EMP cost is to be provided with proper budget management and as per the DPR of the proposed activities*
- (viii) PP must carry out one-month additional monitoring of base line data and the monitoring location chosen should be as per the CPCB guidelines and a comparative analysis must be provided with the one carried on 2017-2018*
- (ix) PP shall submit the latest of approval of Stage –I FC for forest land involved in the project*
- (x) PP shall submit certified compliance of EC of existing Basundhara (West) OC expansion mine from IRO Bhubaneshwar along with the details of Mine closure activities followed.*
- (xi) PP shall prepare detailed River Conservation Plan taking Expertise of third party along with fund and timeline to protect pollution of Basundhara River with identification of Hot spots, indicating a collective responsibility of all the mines of MCL with annual distribution of fund by adoption of 25 km of River stretch.*
- (xii) PP to consider the state action plan for mining as the Project fall in IB valley which is a severely polluted area for adopting the EMP measures*

The proposal is *deferred* on above lines.

Agenda No. 26.6

Expansion of Jawahar Khani– 5 Opencast coal mine project from production capacity of 2.50 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 Bhadrachari Kothagudem (Telangana) - For Reconsideration of Environment Clearance – reg.

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

26.6.1 The proposal is for Environmental clearance to Expansion of Jawahar Khani– 5 Opencast coal mine project from production capacity of 2.50 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 Bhadrachari Kothagudem (Telangana).

26.6.2 The EAC during deliberations noted the following:

Earlier the proposal was considered by EAC in its 17th EAC meeting held on 09th August, 2021 and was deferred for want of additional information. PP has submitted the Compliance of the ADS raised by the EAC in 17th EAC meeting held on 09.08.2021 is detailed as below:

Sr. No.	ADS	Compliance																								
i	<p>PP shall revise damage assessment and its remedial action plan for violation of over production as suggested by EAC based on following points:</p> <p>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.</p>	<p>Reply of point a to g</p> <p>a) The total quantity of excavation viz. OB/Top soil apart from the proposed quantity of coal @ 3.5 MTPA is shown in the below table.</p> <table><tr><th>Sl. No</th><th>Year</th><th>Coal Production in MTPA</th><th>Permissible Max OB and Top soil to be removed as per EMP (M.Cu.m)</th><th>Actual OB and Top soil removed (M.Cu.m)</th><th>Excess OB / Top soil removed (M.Cu.m)</th></tr><tr><td>1</td><td>2015-16</td><td>2.51</td><td>18.20*</td><td>16.526</td><td>0</td></tr><tr><td>2</td><td>2016-17</td><td>2.69</td><td>18.20*</td><td>15.941</td><td>0</td></tr><tr><td>3</td><td>2017-</td><td>2.96</td><td>18.20*</td><td>8.682</td><td>0</td></tr></table>	Sl. No	Year	Coal Production in MTPA	Permissible Max OB and Top soil to be removed as per EMP (M.Cu.m)	Actual OB and Top soil removed (M.Cu.m)	Excess OB / Top soil removed (M.Cu.m)	1	2015-16	2.51	18.20*	16.526	0	2	2016-17	2.69	18.20*	15.941	0	3	2017-	2.96	18.20*	8.682	0
Sl. No	Year	Coal Production in MTPA	Permissible Max OB and Top soil to be removed as per EMP (M.Cu.m)	Actual OB and Top soil removed (M.Cu.m)	Excess OB / Top soil removed (M.Cu.m)																					
1	2015-16	2.51	18.20*	16.526	0																					
2	2016-17	2.69	18.20*	15.941	0																					
3	2017-	2.96	18.20*	8.682	0																					

			18				
		4	2018-19	3.30	18.20*	7.805	0
		5	2019-20	3.35	18.20*	12.030	0
		6	2020-21	2.50	18.20*	9.560	0
		7	2021-22 (up to Dec-2021)	2.03	18.20*	3.490	0
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 prorated basis. Therefore, the damage shall be revised accordingly.	b) The revised damage assessment on air pollution						
	Year	Damage Cost per annum (INR)					
		PM _{2.5}	PM ₁₀	SO _x	NO _x	TOTAL	
	2015-16	385772.50	1069690.47	11.71	17011.67	1472486.35	
	2016-17	161002.04	457320.51	4.83	6644.73	624972.11	
	2017-18	365340.17	1085424.38	15.64	19624.54	1470404.73	
	2018-19	607256.96	1768328.74	25.52	33848.27	2409459.49	
	2019-20	624929.99	1812586.71	22.68	29271.27	2466810.64	
	Total	2144301.65	6193350.80	80.38	106400.48	8444133.32	
	The revised air damage cost is 84.44 Lakhs						
c) Net profit accrual shall be revised besides revising the amount to be allocated to CRAP.	c) Total revised Net profit = Rs.7350 lakhs ➤ & 3% of Total net Profit = 7350 X 3% =220 lakhs. ➤ 3% of the total net profit of Rs.220 lakhs will be contributed towards remediation plan cost. ➤ Profit on excess production cost Rs.220 lakhs.						
	d) Diversion of First order nallahs ➤ The central portion of the project area is elevated land. Four						
d) The scheme of							

		19							
		2019-20	56.18	0.9	4011	1200	5211	1100	4111
f) Damage cost for GW abstraction considering the above shall be revised on prorate basis and the rate shall be revised as per CGWA Notification dated 24/09/20	f) The revised Water Damage cost = Rs.8.48 lakhs (Rs.4,75,701[Ground water abstraction charge] +Rs.3,72,606 [Ground water restoration calculation])								
	g) The activities enumerated under Remediation, NRAP and CRAP shall be revised based on the need based survey and further shall be specific, monitor able besides revising the target period to two years.	g) Total revised Damage Cost is 333.27 Lakhs:							
		Sl. No	Environmental Activity	Damage Cost (Rs. in Lakhs)					
				Previous Estimated cost	Revised Estimated cost				
	1	Air Environment	64.86	84.44					
	2	Water Environment	8.02	8.48					
	3	Flora & Fauna	14.95	20.35					
	4	Profit accrued due to excess production	193.00	220.00					
		TOTAL	280.83	333.27					
JK-5 OC extracted production more than sanctioned EC capacity 2.50 MTPA so damage done to the environment due to excess production has been assessed, Remediation Plan, Natural Resource Augmentation Plan and Community, Resource Augmentation Plan has been prepared.									
An amount of Rs.333.3 Lakhs has been proposed to be spent									

towards this plan.

Sl. No.	Description	Revised Estimated cost (Rs. in Lakhs)
1	Remediation Plan	110.3
2	Natural Resources Augmentation Plan	100.0
3	Community Resources Augmentation Plan	123.0
Total		333.3

There may be escalation in cost of items but the total projected amount of Rs. 333.3 lakh will be spent towards Remediation Plan and Natural & Community Resource Augmentation Plan (RP&NCRAP) accordingly.

*Break up of Remediation Plan, NRAP, CRAP is given in the table below

Fund Provision as per OM Dated 30.09.2020

- 1% of total project capital coast contributed towards community welfare activities as per OM dated 30.09.2020.
- Capital cost of the project was Rs 131.20 Crores.
- 1% contribution from capital cost against community welfare activities i.e.
- Rs 131.2 lakhs & works as below.

Sl.No	Description of Activity	Location	Rate (Rs.in Lakhs)	Total Cost	Year –I	Year –II
				Rs. in Lakhs		

		1	Laying of CC Roads	1.Usirikayalappally 2.Polampally 3.20th Ward of YLD 4.CSP Basthi 5.16th Ward of YLD	50 lakhs per 1 km	50.0	30.0	20.0
		2	School Building & Community hall	1.Tilak Nagar 2.CSP Basthi	25 lakhs per unit	50.0	25.0	25.0
		3	Park & Open Gym	16 th Ward of YLD	Rs15.6 lakhs per each unit	31.2	15.6	15.6
		TOTAL				131.2	70.6	60.6
		RP&NCRAP cost – 333.3 lakhs 1% Contribution on PH – 131.2 lakhs Grand total – 464.5 lakhs						
ii	PP shall provide monetary provisions for Wildlife Conservation Plan for Schedule-I Species and breakup of the proposed activities submitted to the DFO.	PP shall provide monetary provisions for Wildlife Conservation Plan for Schedule-I Species and breakup of the proposed activities submitted to the DFO. A letter from Govt of Telanagana Forest Dept vide letter no 11416/2021/WL-(i) dated 12.10.2021 was furnished by PP with total budget of 342.05 lakhs						
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.	The proper location of the OB dumps along with its Longitude and Latitude with its proper restoration plan was prepared and submitted.						

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.	<p>The installation of STP will be completed in month of February 2022 and plan of action was furnished submitted.</p> <p>CTO of other constructed STP at Koyagudum opencast II dated 16.03.2017 is submitted.</p> <p>Coal transportation road along the village was widened up to 7.0 m for a length of 5 km and the photos depicting widening works was furnished by PP</p>						
v	PP shall submit a video recording of the site from drone in next meeting	Video recording of the site from drone was submitted						
vi	PP shall update mine closure activity already conducted and to be pursued for final mine closure.	<p>Mine closure activities already conducted and to be conducted are furnished herewith for final Mine closure</p> <p>As per the approved Final Mine Closure Plan by MoC, GoI total mine closure cost is estimated as Rs 68.832 Crores and amount to be spent is as follows:</p> <p>From 2018 -19 to 2020-21 is Rs 53.859 & during post mining 2023-24 is Rs 14.973 crores</p>						
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.	<p>➤ 2 Nos of RO plants were provided with maintenance and services for 2 years. As suggested by EAC, the maintenance and service facility will be extended for 10 Years.</p> <p>➤ 5 Nos of RO plants proposed under NCRAP will be given with 10 years maintenance and service facility.</p> <table border="1"> <thead> <tr> <th>Description</th><th>Unit Rate Rs. Lakhs</th><th>Locations</th></tr> </thead> <tbody> <tr> <td>RO plants of 250 l/hour capacity in nearby villages. (Installation, room construction including 10 years maintenance)</td><td>Rs.7.5 lakhs Total 5 units -- Rs. 37.5 lakhs.</td><td> 1. Rompedu 2. JK R&R Colony 3. Usirikayapalli 4. Bhagyanagar thanda 5. Rajanagar </td></tr> </tbody> </table>	Description	Unit Rate Rs. Lakhs	Locations	RO plants of 250 l/hour capacity in nearby villages. (Installation, room construction including 10 years maintenance)	Rs.7.5 lakhs Total 5 units -- Rs. 37.5 lakhs.	1. Rompedu 2. JK R&R Colony 3. Usirikayapalli 4. Bhagyanagar thanda 5. Rajanagar
Description	Unit Rate Rs. Lakhs	Locations						
RO plants of 250 l/hour capacity in nearby villages. (Installation, room construction including 10 years maintenance)	Rs.7.5 lakhs Total 5 units -- Rs. 37.5 lakhs.	1. Rompedu 2. JK R&R Colony 3. Usirikayapalli 4. Bhagyanagar thanda 5. Rajanagar						
viii	The details of diversion of one of streams existed in the ML prior to commencement of mining shall be submitted,	➤ The central portion of the project area is elevated land. Four 1st order Streamlets originated in this area are draining towards west to join a 2 nd order stream flowing northwest along the western side of the quarry. To facilitate the mine workings, the 2nd order stream was converted as a part of						

	considering the catchment, low adequacy, etc.	<p>garland drain to channel the water towards downstream.</p> <p>➤ The total catchment area in the western side of the project is 1.70 sq.km, of which within the quarry is 0.95 sq.km. The drainage length of all streams within quarry is 3.4km and it was disturbed during the mining operations.</p> <p>➤ The rain water over the quarry will be accumulated in the mine pit (sumps) and is pumped out to the surface after passing through garland drains and settling ponds and clear water will be let out into the original nallah. Thus there will not be any impact on surface flow in the catchment. Plan was also submitted.</p>
ix	PP shall submit certified compliance report of EC dated 18th May, 2009 from Ministry's IRO (Integrated Regional Office).	Certified compliance report of EC 2009 vide no EP/12.1/900/AP/3931 dtd 30 th July 2013 was submitted
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.	<p>1. Applied NOC for Ground water wide letter Ref.No.YLD/ENV/2021-22/54, dated 10/08/2021.</p> <p>2. Submitted DD to The District ground water officer for ground water survey charges on 26.11.2021</p>
xi	PP shall recheck and re-monitor the water quality of surface water in vicinity of the Project area by other consultant (third party).	<p>The quality of surface water in the vicinity of the Project area was rechecked by other consultant i.e., M/s. Ramky Enviro Engineers. The report is submitted</p> <p>➤ In accordance with CPCB water quality criteria, parameters studied were pH, DO, BOD and total coliforms.</p> <p>➤ It was observed that all the surface water samples have DO values ranging from 5.2 to 6.0 mg/L.</p> <p>➤ pH values were found to be in the range 6.75 to 7.72.</p> <p>➤ BOD levels are found to be within the limit of <3 mg/l in all the surface water samples except at Ragaboyanagudem (SW-5).</p> <p>➤ Total coliforms in all the samples are less than 500MPN/1000mL.</p> <p>➤ Based on the above data it can be inferred surface water samples falls in the category of class-B (outdoor</p>

		bathing(Organized) criteria and being used by public.				
xii	Action plan for commitment made on the issues raised during public hearing in both the districts.	Action plan for commitment made on the issues raised during public hearing in both the districts was prepared and furnished by PP				
		S.No.	Issue Raised	PP commitment	time line	Monetary provision (in lakhs)
		1	Employment, Education and Training	To comply on yearly basis	Ever Year	As per CSR policy of the company
		2	Roads	Construction of CC roads for a length 0.25 km at 9 selected villages	2 years	100
		3	Street lightnin g	The street lightening will be improved by fixing 30 watts solar LED lights in 10 surrounding villages under NCRAP	2 years	55
		4	Purified drinkin g water	SCCL is providing by tankers to near by villages	One year	14.0
		5	Establis hment of RO plants	250 lit/hr capacity of RO installation	2 years	37.5

				with 10 years maintenance at total 5 units are proposed by PP		
		6	Supply of excess mine water for agriculture purpose	4500 KLD of treated water from mine is provided at Yellandu area	Continues process	
		7	Medical Camps	Regularly providing the medical camp	Every three months	2.00
		8	Drainage and Sanitization	SCCL will arrange no of tractors for garbage disposal from colony And will take improvement of sanitization and drainage	Every Year	As per CSR policy of the company
		9	To take adequate air, noise pollution control measures	SCCL is taking up various measures like water sprinkling on coal transportati	Every Year	340.00

			e	on roads to CHP		
		10		Massive plantation in an area of 238 ha in JK-5 OC mine is done, avenue plantation done along roads, Park developed with greenery	3 years	150.00
		11		Planation of native plants proposed at periphery outs the mine lease under RA and NCRAP	2 years	10.3
		12	Adequa te water pollutio n control measur es	SCCL is proposing to conduct 10 no Rain water Harvesting Structures for augmentatio n of ground water under NCRAP	2 years	10.00
		13		Constructio n of check	2 years	45

				dams is proposed at 9 places		
		14	Control blasting to avoid damage of houses	Blasting at JK-5 OC monitored with MINIMAT E instruments	Continues process	
		15	Desilting the tanks in nearby villages	SCCL is arranging where every necessary	where every necessary	
		16	Protection of wildlife in adjacent forest land	Wildlife management Plan for with consultation to forest department is proposed	342.05 lakhs	
		17	CSR and DFMT funds should be spent for development of surrounding villages	SCCL is spending for development programmes under CSR activities	Ever Year	As per CSR policy of the company
			To develop park, gym in the	The development of park gym and walking	2 years	61.2

			surrounding villages	tracks are under CRAP		
xiii	PP shall submit the consent letter from the panchayat for the stretch required by the villagers on actual need base survey and to provide pucca road to them with proper budgetary implementation and time bound action of 2 years was to be followed.	Submitted the consent letter dated 03.03/2021 written in local language from the panchayat was provided for the stretch required by the villagers on actual need base survey and to provide pucca road to them with proper budgetary implementation and time bound action of 2 years.				

Break up of Remediation Plan, NRAP, CRAP are as follows:

(i) Remediation Plan

Sl. No	Component Remediation	Remediation Proposed	Description	Unit Rate Rs Lakhs	Locations	Total Cost	Year - I	Year - II
						Rs. in Lakhs		
1a	Air & Noise Environment	Dust suppression	Construction of the CC Roads for a length of 1k m.	Rs.12.5 lakhs per 0.25 km.	1.VijayalaxmiNagar 2.Subash Nagar 3.Strut Pit Basthi 4.Bhagyanagar thanda.	50.0	50.0	--
1b	Noise Environment and Ecology	Avenue Plantation	Plantation of total 128 Nos. of native plants at Rs.1000 per	Rs. 1,000 / One plant	JK colony	12.8	7.8	5.0

			sapling, including maintenance for 3 years in nearby village and periphery of the project.					
1c	Water Environment	Rain water harvesting structure	Construction of RWH (including raw material, labour, construction and maintenance for one year)	Rs.2.5 lakhs per one unit-- Total 4 units	1.Rompedu 2.Bojjaigudem 3.Motlagudem 4.Karepalli	10.0	5.0	5.0
		Supply of potable water in surrounding villages.	RO plants of in nearby villages. 250lit/hour capacity with installation and 10 years maintenance & shed.	Rs.7.5 lakhs per one unit— Total 5 units	1.Rompedu 2.JK R&R Colony 3.Usirikayapalli 4.Bhagyanager thanda 5.Rajanagar	37.5	22.5	15.0
		Sub-Total – A (1a+1b+1c)				110.3	85.3	25.0
Rs.								

(ii) Natural Resource Augmentation Plan

Sl. No.	Component Remediation	Description	Unit Rate Rs. Lakhs	Locations	Total Cost	Year-I	Year-II
					Rs . Lakhs		
2a	Natural Resource Augmentati on Plan	30W pole mounted solar LED lights (complete set) in nearby villages @Rs.28000 per unit with 3 years maintenance.	Rs.0.28 lakhs per unit – Total 196 units.	1. Usirikayapalli 2. Bhagyanager thanda 3. Sitarampur 4. Tekulagudem 5. Rompedu 6. Nizampet 7.Vijayalaxmi Nagar 8. 21 Pit Area 9. 23 rd Ward 10.Strut pit Basthi	55.0	28.0	27.0
2b		Construction of check dams (Materials, manpower, construction).	Rs. 5.00 lakhs per unit – Total 9 units.	1. Usirikayapalli-2 2. Sitarampur-2 3. Karepalli-2 4. Tekulagudem-3	45.0	25.0	20.0
Sub-Total–B (2a+2b)					100.0	53.0	47.0
Rs.							

(iii) Community Resource Augmentation Plan

Sl. No.	Proposed Activity	Description	Unit Rate Rs. Lakhs	Locations	Total Cost	Year-I	Year-II
					Rs. In Lakhs		
3a	Development of Infrastructure	Construction of Community halls.	Rs. 24.00 lakhs per unit – Total 2 units.	1. Rompedu 2. Karepalli	48.0	24.0	24.0

3b	Godown for storage of the agriculture products in the nearby villages	Rs. 15.00 lakhs per unit – Total 3 units.	1.Usirikayapalli 2.Sitarampur 3.Rompedu	45.0	30.0	15.0
3c	Development of Parks	Rs. 10.00 lakhs per unit – Total 3 units.	1.JK colony 2. JK5 OC R&R colony vacated area.(16 th Ward) 3.Strut Pit Basthi	30.0	15.0	15.0
Sub-Total – C (3a+3b+3c)				Rs. 123.0	69.0	54.0
Grand Total (A +B +C) (107.8+100+123)				Rs. 333.3	207.3	126.0

26.6.3 The EAC, after deliberation observed that the Project Proponent have provided the revised damage assessment cost and accordingly the revised cost of remediation plan, Natural Resource Augmentation Plan and Community Resource Augmentation Plan. Further, revised expenditure for addressing the issues raised in Public Hearing has been submitted. It was desired that plantation along the transportation route should be further augmented and fleet size to be optimized to reduce the number of dumpers/trucks plying the road. PP informed that Jawaharkhani -5 is part of Yellandu mine. The Mining lease (Yellandu Additional Mining Lease (1741 ha) G.O.Ms.No:278, dt:23.10.2007) of this project is valid upto 14th April, 2024, accordingly validity of EC should be same as that. However, life of the mine is only 1 year as submitted by Project Proponent and all the Remediation plan is being submitted to be complied in 2 years. Therefore, it was desired that all the activities listed shall be complied within one year itself. The mine closure activity, as proposed by PP as per mine plan should be followed properly and in priority.

Based on documents and commitments submitted by PP, EAC **recommended** the proposal under violation category to 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 Bhadrachalam Kothagudem (Telangana) under EIA Notification, 2006 and subsequent amendments/circulars thereto subject to the compliance of the following terms & conditions / specific

conditions for environmental safeguards:

- (i) EAC recommended for an amount of Rs 464.5 lakhs towards Remediation plan and Natural and Community Resource Augmentation plan to be spent within a span of three years. The details of Remediation plan, Natural resource Augmentation plan and Community Resource Augmentation plan with budgetary provision are mention above

Sl. No	Component Remediation	Remediation Proposed	Description	Unit Rate Rs Lakhs	Locations	Total Cost	Year - I	Year - II
						Rs. in Lakhs		
1a	Air & Noise Environment	Dust suppression	Construction of the CC Roads for a length of 1km.	Rs.12.5 lakhs per 0.25 km.	1.VijayalaxmiNagar 2.Subash Nagar 3.Strut Pit Basthi 4.Bhagyanagar thanda.	50.0	50.0	--
1b	Noise Environment and Ecology	Avenue Plantation	Plantation of total 128 Nos. of native plants at Rs.1000 per sapling, including maintenance for 3 years in nearby village and periphery of the project.	Rs. 1,000/ One plant	JK colony	12.8	7.8	5.0
1c	Water Environment	Rain water harvesting structure	Construction of RWH (including raw material, labour, construction and	Rs.2.5 lakhs per one unit-- Total 4 units	1.Rompedu 2.Bojjaigudem 3.Motlagudem 4.Karepalli	10.0	5.0	5.0

		ture	maintenance for one year)					
		Supply of potable water in surrounding villages.	RO plants of in nearby villages. 250lit/hour capacity with installation and 10 years maintenance & shed.	Rs.7.5 lakhs per one unit— Total 5 units	1.Rompedu 2.JK R&R Colony 3.Usirikayapalli 4.Bhagyanagerthanda 5.Rajanagar	37.5	22.5	15.0
Sub-Total						110.3	85.3	25.0
Rs.								

Natural Resource Augmentation Plan

Sl. No.	Component Remediation	Description	Unit Rate Rs. Lakhs	Locations	Total Cost	Year-I	Year-II
					Rs . Lakhs		
2a	Natural Resource Augmentation Plan	30W pole mounted solar LED lights (complete set) in nearby villages @Rs.28000 per unit with 3 years maintenance.	Rs.0.28 lakhs per unit – Total 196 units.	1. Usirikayapalli 2. Bhagyanagerthanda 3. Sitarampur 4. Tekulagudem 5. Rompedu 6. Nizampet 7. Vijayalaxmi Nagar 8. 21 Pit Area 9. 23 rd Ward 10.Strut pit Basthi	55.0	28.0	27.0

2b	Construction of check dams (Materials, manpower, construction).	Rs. 5.00 lakhs per unit – Total 9 units.	1. Usirikayapalli-2 2. Sitarampur-2 3. Karepalli-2 4. Tekulagudem-3	45.0	25.0	20.0
Sub-Total-B (2a+2b)				Rs. 100.0	53.0	47.0

Community Resource Augmentation Plan

Sl. No.	Proposed Activity	Description	Unit Rate Rs. Lakhs	Locations	Total Cost	Year - I	Year - II
					Rs. In Lakhs		
3a	Development of Infrastructure	Construction of Community halls.	Rs. 24.00 lakhs per unit – Total 2 units.	1.Rompedu 2.Karepalli	48.0	24.0	24.0
3b		Godown for storage of the agriculture products in the nearby villages	Rs. 15.00 lakhs per unit – Total 3 units.	1.Usirikayapalli 2.Sitarampur 3.Rompedu	45.0	30.0	15.0
3c		Development of Parks	Rs. 10.00 lakhs per unit – Total 3 units.	1.JK colony 2. JK5 OC R&R colony vacated area. (16 th Ward) 3.Strut Pit Basthi	30.0	15.0	15.0
Rs. Sub-Total – C (3a+3b+3c)					123.0	69.0	54.0
Rs. Grand Total (A +B +C) (107.8+100+123)					333.3	207.3	126.0

1% contribution from capital cost against community welfare activities

Sl.No	Description of Activity	Location	Rate (Rs.in Lakhs)	Total Cost	Year –I	Year-II
				Rs. in Lakhs		
1	Laying of CC Roads	1.Usirikayalapally 2.Polampally 3.20th Ward of YLD 4.CSP Basthi 5.16th Ward of YLD	50 lakhs per 1 km	50.0	30.0	20.0
2	School Building & Community hall	1.Tilak Nagar 2.CSP Basthi	25 lakhs per unit	50.0	25.0	25.0
3	Park & Open Gym	16 th Ward of YLD	Rs15.6 lakhs per each unit	31.2	15.6	15.6
TOTAL				131.2	70.6	60.6

Summary

Sl. No.	Description	Revised Estimated cost (Rs. in Lakhs)
1	Remediation Plan	110.3
2	Natural Resources Augmentation Plan	100.0
3	Community Resources Augmentation Plan	123.0
4.	1% contribution on PH	131.2
Total		464.5 Lakhs

- (ii) Total budgetary provision with respect to Remediation plan and Natural & Community Resource Augmentation plan is Rs 464.5 lakhs. Therefore, project proponent shall be required to submit a bank guarantee of an amount of Rs 464.5/- Lakhs towards Remediation plan and Natural and Community Resource Augmentation plan with the SPCB prior to the grant of EC.
- (iii) Remediation plan shall be completed in within one year from date of issue of EC only. The bank guarantee will be released after successful implementation of the remediation plan and Natural and Community Resource Augmentation Plan, and after the recommendation by regional office of the Ministry, Expert Appraisal Committee and approval of the Regulatory Authority.
- (iv) Further proposal of expansion/amalgamation of mine shall only be considered only when full

compliance of this EC conditions alongwith compliance of Remediation plan and Natural & Community Resource Augmentation plan for amount Rs 464.5 lakhs is accomplished.

- (v) Approval/permission of the CGWA/SGWA shall be obtained before drawing ground water for the project activities, if applicable. State Pollution Control Board (SPCB) concerned shall not issue Consent to Operate (CTO) till the project proponent obtains such permission.*
- (vi) PP shall submit the amount allocated for Wildlife Conservation plan as approved by the Competent Authority within six months of issue of this letter and shall be implemented with consent to the respective Forest division and intimation to PCCF regarding the activities to be carried should be also be sent*
- (vii) The Environmental Clearance will not be operational till such time the Project Proponent complies with all the statutory requirements and judgment of Hon'ble Supreme Court dated the 2nd August 2017 in Writ Petition (Civil) No. 114 of 2014 in the matter of Common Cause versus Union of India and Ors.*
- (viii) State Government concerned shall ensure that mining operation shall not commence till the entire compensation levied, if any, for illegal mining paid by the Project Proponent through their respective Department of Mining & Geology in strict compliance of judgment of Hon'ble Supreme Court dated the 2nd August 2017 in Writ Petition (Civil) No. 114 of 2014 in the matter of Common Cause versus Union of India and Ors.*
- (ix) Effective dust suppression system shall be adopted at the transportation site and in the other parts of the mining lease to arrest the fugitive dust emission*
- (x) Project proponent shall take necessary other clearances/permissions under various Acts and Rules if any, from the respective authorities / department.*
- (xi) The mining lease holder shall, after ceasing mining operations, under take re-grassing the mining area and any other area which may have been disturbed due to their mining activities and restore the land to condition which is fit for growth of fodder, flora and fauna etc.*
- (xii) State Government/SPCB to take action against the Project Proponent under the provision of Section 19 of the E(P) Act.*
- (xiii) In pursuance to the Ministry's OM dated 30.09.2020, Project Proponent shall take up the following activities for community development under EMP*
- (xiv) The PP must adhere to the commitment in time bound manner to address the public hearing issues like construction of check dams in Usirikayalapally (3nos), Sitarampur (2 nos), Kerapalli (2 nos) & tekulagudam (03 nos), providing street solar lights to 10 surrounding villages and construction of CC roads in Vijay laxmi nagar, Subhash nagar, Strut Pit basti, Bhagyanagar thanda, Usirikayalapally, Polampally, 20th ward of YLD, CSP Basti, 16th ward of YLD etc.*
- (xv) PP must also install solar lights along the roads too which are to be constructed by PP as mentioned above conditions in all the villages*
- (xvi) PP shall update mine closure activity already conducted and to be pursued for final mine closure and furnish the detail to the respective IRO in December,2022*
- (xvii) PP shall backfill fill the entire final void up to a depth of 20 m from surface to form a water lagoon after cessation of mining activities*

(xviii) *Periodical health check-up shall be conducted to monitor the impact of heavy metals present in core zone & buffer zone air quality and also to prepare an action plan to reduce heavy metals concentration and also report to be submitted to concerned regional office of MoEF&CC.*

Agenda No. 26.7

Expansion of Makardhokra- I OC mine (Phase-I) for increase of production capacity from 3.50 MTPA to 4.90 MTPA in land area of 614.69 ha of M/s Western Coalfields Limited located near village Shirpur, Tehsil Umrer, District Nagpur (Maharashtra)- For Reconsideration of Environmental Clearance - under MoEF&CC O.M. dated 15.09.2017

[Online proposal No. IA/MH/CMIN/240491/2021; F No. J-11015/54/2006- IA.II(M)]

26.7.1 The proposal is for Environmental Clearance of Expansion of Makardhokra- I OC mine (Phase-I) for increase of production capacity from 3.50 MTPA to 4.90 MTPA in land area of 614.69 ha of M/s Western Coalfields Limited located near village Shirpur, Tehsil Umrer, District Nagpur (Maharashtra).

26.7.2 The EAC during deliberations noted the followings:

Earlier the proposal was considered by EAC in its 24th EAC meeting held on 30th December, 2021, 25th EAC meeting held during 18 to 20 January, 2022 and was deferred for want of additional information. PP has submitted the Compliance of the ADS raised by the EAC in 25th EAC meeting and according is detailed below:

Sr. No.	ADS	Compliance
1	PP shall submit alternate options regarding advance technology of mining methods instead of surface miner.	<p>The proposed enhancement in capacity by 40%, the same system (drilling, blasting & crushing) has been envisaged as per approved Mining Plan</p> <p>As already deliberated in the approved Mining Plan, is not technically suitable for this particular mine considering the lay and disposition of coal seam and geotechnical parameters</p> <p>Considering this particular mine, regarding alternate option of advance technology of mining methods instead of surface miner, it is submitted that, wet drilling machine will only be used to control dust generation effectively at source.</p>

		<p>Similarly, for blasting, advance technology will be used with NONEL Shock Tube detonators in which instead of electric wires, a hollow plastic tube delivers the firing impulse to the detonator, making it immune to most of the hazards associated with stray electric current. With the use of NONEL Shock Tube detonators there is effective and proper fragmentation of coal thereby controlling fly rock, ground vibration and dust generation significantly.</p> <p>Further controlled blasting will be done by optimisation of charge per hole and charge per delay</p> <p>Additionally, 10 nos. of long throw (100 m) fog canons have already been placed into operation and are deployed at dust generating points to control the dust at source itself.</p> <p>As such, the advantages of surface miner have been duly incorporated in the existing system to control dust effectively by wet drilling, by adopting advance blasting techniques & continuing with existing dust suppression measures during crushing and deploying further advanced dust control equipment around the crusher site.</p>																						
2	PP shall submit action plan for peripheral tree plantation of 50 mts width and other plantation (as activity of Mine closure plan) with allocated budget and timeline..	<p>As per Amendment recommended by EAC, Plantation of 1,50,000 Saplings of fruit bearing trees have been considered</p> <table><tr><th>Issue</th><th>compliance</th><th>Area (ha)</th><th>Plantation (Nos.)</th><th>Timeline</th><th>Budget</th><th>Plant species includes</th><th>Remarks</th></tr><tr><td rowspan="2">a. Green Belt along project boundary of 50 m width along the periphery of the</td><td>Green Belt of length 1600 m width 30 m</td><td>4.80 ha</td><td>12,000</td><td>2021 – 22</td><td>31,58,880 /-</td><td rowspan="2">Jamun, Imli, Ganga, Imli Bel, Mango, Sitaphal etc</td><td>Work Completed (Source : Revenue budget)</td></tr><tr><td>Green Belt Length 1600 m Width 20 m</td><td>3.20 ha</td><td>8,000</td><td>2022 – 23</td><td>21,05,920 /-</td><td>Proposed Work (Source : Revenue</td></tr></table>	Issue	compliance	Area (ha)	Plantation (Nos.)	Timeline	Budget	Plant species includes	Remarks	a. Green Belt along project boundary of 50 m width along the periphery of the	Green Belt of length 1600 m width 30 m	4.80 ha	12,000	2021 – 22	31,58,880 /-	Jamun, Imli, Ganga, Imli Bel, Mango, Sitaphal etc	Work Completed (Source : Revenue budget)	Green Belt Length 1600 m Width 20 m	3.20 ha	8,000	2022 – 23	21,05,920 /-	Proposed Work (Source : Revenue
Issue	compliance	Area (ha)	Plantation (Nos.)	Timeline	Budget	Plant species includes	Remarks																	
a. Green Belt along project boundary of 50 m width along the periphery of the	Green Belt of length 1600 m width 30 m	4.80 ha	12,000	2021 – 22	31,58,880 /-	Jamun, Imli, Ganga, Imli Bel, Mango, Sitaphal etc	Work Completed (Source : Revenue budget)																	
	Green Belt Length 1600 m Width 20 m	3.20 ha	8,000	2022 – 23	21,05,920 /-		Proposed Work (Source : Revenue																	

		project	Green Belt Length 4800 m Width 50 m	24.00 ha	60,000	2022 – 23	1,57,94,400/-		e budget)
		a. Green Belt along project boundary of 50 m width along the periphery of the project	Green Belt Length 800 m Width 50 m	4.00 ha	10,000	2023 – 24	26,32,400/-	Jamun, Imli, Gang Imli, Bel, Mango, Sitaphal etc	Proposed Work (Source : Revenue budget)
		b. Green Belt along the Periphery of the OB Dump	Green Belt Length 4800 m Width 50 m	24.00 ha	60,000	2023 – 24	1,69,57,200/-		
		Sub Total		60.00 ha	1,50,000				
		Issue	compliance	Area (ha)	Plantation (Nos.)	Timeline	Budget	Plant species includes	Remarks

		Plantation on Other undisturbed area	16.00 ha	40,000	2023-24	1,05,29,600/-	Teak, Shivan / Ghamar, Sissoo, Kala Sirus, Safed Sirus, Bamboo, etc.	Proposed Work (Source: Revenue budget).
		Plantation upto End of Mine Life	76.00 ha	1,90,000	2021-24 (3 Years)	5,00,15,600		
		Plantation (as activity of Mine closure plan)						
		Plantation on Vacant land	6.60 ha	16,500	2024-25	43,43,460/-		
		Plantation on Vacant land	6.60 ha	16,500	2025-26	43,43,460/- (Tentative)		
		Plantation on Vacant land	6.60 ha	16,500	2026-27	43,43,460/- (Tentative)		
		Total Land	95.80 ha	2,39,500	2021-27	6,30,45,980		
		<p>It may be mentioned here that, WCL has already entered into a long term MOU with Madhya Pradesh Rajya Van Vikas Nigam (MPRVVN), a State level Expert Agency for planation in its Mining areas with four years maintenance after each year of plantation.</p> <p>As per MoU, following species are to be planted:</p> <ul style="list-style-type: none">• Fruit Bearing Tree Species: Jamun, Imli, Ganga Imli, Bel, Mango, Sitaphal etc.,• Medicinal / Herbal Plants: Neem, Karanj, Harra,Bahera, Aonla (Amla), Arjun, Shekakai, Kusum, Mahua, etc.• Timber Value Trees: Teak, Shivan / Ghamar, Sissoo, Kala Sirus, Safed Sirus, Bamboo, etc.• Ornamental / Avenue Plants (by the side of roads and colonies): Kachnar, Gulmohar, Amaltas, Saptaparni,						

		Gravalia, Peepal, Palm tree etc.				
3	PP shall submit action plan for implementation of in-pit conveyor system with silo loading facility at nearest railway siding with strict timeline for this project and allocated budget	Sl No	Particulars	Timeli ne	Tentative Estimate for proposed in-pit conveyor system	Budget Allocation
		1	Approval of Project Report / Mining Plan including in-pit conveyor upto Dinesh OC Coal Handling Plant	Dec'20 22	Rs 120.0 Crore (Approx. length for in-pit conveyor system – 4.0 km)	Capital head as per PR/ Mining Plan
		2	Tendering and Award of Work	June' 2023		
		3	Completion of installation of Conveyor	Mar'2 024		

26.7.3 The EAC, after deliberations observed that instant proposal for expansion under Ministry's OM dated 15th September, 2017 (i.e. without public hearing) and within same mine lease area. PP was to submit the compliance to the requirement of OM required with target date of commencement of Railway siding and silo loading system. PP presented the construction status with photographs of this conveying system at Dinesh OCP which is proposed to be used for this instant project. Currently, it was observed that PP is using shovel dumper method and as alternate plan of surface miner the wet drilling and enhance technology of blasting is proposed by PP with installation of 10 additional fog cannon at crusher and other required places and the transportation is through the road. The EAC emphasized PP to expedite mechanized transportation as early as possible and squeeze the time line.

One of the main causes of fugitive dust is blasting during mining operations, on which EAC desired that PP should use Electronic Detonators while Blasting. It was suggested that the mine closure activity, as per the life of mine and mine plan should be followed properly on priority basis. Further, target of tree plantation needs to be expedited along with installation of the conveyor belt.

*Based on documents and commitments submitted by PP, EAC **recommended** the proposal for 20 % Expansion under O.M. dated 15.09.2017 of Expansion of Makardhokra- I OC mine (Phase-I) for increase of production capacity from 3.50 MTPA to 4.2 MTPA in land area of 614.69 ha of M/s Western Coalfields Limited located near village Shirpur, Tehsil Umrer, District Nagpur (Maharashtra) (Jharkhand) under 7 (ii) clause of EIA Notification, 2006 and subsequent amendments/circulars thereto subject to the compliance of the following terms & conditions / specific conditions for environmental safeguards:*

- (i) Project Proponent shall obtain the CTO for 4.2 MTPA capacity prior to mine production.*
- (ii) Further expansion in capacity will only be considered by EAC when at least 75% of EC conditions are complied fully and PP obtains 5-star rating from Ministry of Coal.*
- (iii) PP must comply all the non- compliances and partial compliances of IRO CCR report dated 05th November, 2021 as per Action Taken Report dated 09.11.2021 submitted to IRO. Status of which should be submitted to IRO, MoEF&CC in 6 monthly report. IRO, MoEF&CC, shall assess compliance status accordingly.*
- (iv) PP shall implement the work of in-pit Belt conveyor system with CHP and Silo loading system till October, 2023 and accordingly, SPCB shall not grant CTO for road transportation after October, 2023. In this regard, a detailed action plan with documentary proof of bidding process should be submitted to IRO, MoEF&CC within 3 months from date of issue of EC.*
- (v) PP shall only use 40-50 tonne dumpers/trucks for transportation of coal from mine pit to railway siding till conveyor system is implemented i.e till December, 2023.*
- (vi) PP shall make use of advanced computer simulation techniques for design and execution of blasting operation in the mine. PP shall make use of Electronic Delay Detonators for optimal blasting in coal and OB rock to minimize the environmental impacts of blasting such as ground vibration, fly rocks and excessive dust generation..*
- (vii) PP to construct a Motorable road between the Hawatti to Makardhokra within 1 year*
- (viii) PP shall submit allocated fund for wildlife conservation plan within six months and compliance of the same should be submitted to Ministry's IRO.*
- (ix) PP shall plant additional 1,50,000 trees (other than already stipulated in earlier EC) in mine and by acquiring new land near villages and mark this as developed by M/s WCL for maintenance and authentication by IRO within 2 years. Further, separately 50 mts width peripheral tree plantation as committed shall be completed within 2 years.*
- (x) PP shall construct two additional water harvesting pond with the concurrence of gram panchayat (other than already stipulated in earlier EC) within 2 years.*
- (xi) PP shall install wind shield around the railway siding to prevent movement of dust through wind to sensitive areas like school, hospital etc.*
- (xii) PP shall obtain No Objection Certificate (NOC) for extraction of Ground Water from Central Ground Water Authority for expansion capacity.*
- (xiii) Sewage treatment plant for industrial sewerage of capacity 25 KLD shall be installed by March 2023.*
- (xiv) PP to provide drinking water facilities like installation of RO with proper water supply pipe*

fittings to nearby rural areas and also to install hand pumps by seeking consent from panchayat of the nearby villages within two years. A copy of consultation proof shall be submitted to IRO, MoEF&CC within 1 month from date of issue.

- (xv) PP to install solar lights within 1 year from the grant of this EC along the road used for transportation of minerals to avoid the accidents at night and also seek its maintenance. PP to also install solar light with its maintenance within the study area of 10 km radius buffer zone within one year.*
- (xvi) PP to install 1 more continuous ambient air quality monitoring stations at suitable locations preferably village side and with consultation of SPCB. 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.*
- (xvii) PP to take grassing and vegetation of OB dump and PP must 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.*
- (xviii) The illumination and sound at night at project sites disturb the villages in respect of both human and animal population. Consequent sleeping disorders and stress may affect the health in the villages located close to mining operations. Habitations have a right for darkness and minimal noise levels at night. PPs must ensure that the biological clock of the villages is not disturbed; by orienting the floodlights/ masks away from the villagers and keeping the noise levels well within the prescribed limits for day light/night hours*

Agenda No. 26.8

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

[Online proposal No. IA/MH/CMIN/253487/2022; IA-J-11015/62/2021-IA-II(M)]

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

26.8.2 The EAC during deliberations noted the following:

Project Proponent has requested for amendment in following details of the projects and conditions stipulated in ToR conditions:

Sr. No	Reference	Description as per approved ToR	Amendment Sought For
1	Title of the Project	“Takli Jena Bellora (North & South) Opencast cum Underground Coal Mine of overall capacity 1.5 MTPA in total area of 936 Ha (OC-236.9 Ha; UG - 699.10 Ha) of M/s Aurobindo Realty Infrastructure Pvt Ltd (ARIPL) in Village Bellora, Tehsil Bhadravati, District Chandrapur Maharashtra.	“Takli-Jena-Bellora (North) & Takli-Jena-Bellora (South) Opencast cum Underground Coal Mine of overall capacity 1.5 MTPA in total area of 936 Ha (OC-236.9 Ha; UG - 699.10 Ha) of M/s Aurobindo Realty Infrastructure Pvt Ltd (ARIPL) in Village Bellora, Tehsil Bhadravati, District Chandrapur Maharashtra”
2	At para 2(x)	Area of surface water body is NIL in pre-mining land use details	Area of surface water body is 12.5 ha in pre-mining landuse details.
2	At para 2 (xi)	Total Geological reserve: 100.637 MT Mineable reserve: 88.5 MT Percent of Extraction: (OC – 80%; UG – 35%)	Total Geological reserve: 92.31MT Mineable reserve: 63.56 MT Percent of Extraction (OC – 73%; UG – 33.4%) Percentage of Extraction (Overall) – 41.1%
3	At para 2(xiv)	Life of mine is 30 years	Life of mine is 34 years
4	At para 2 (xxii)	Regarding Nala diversion: Bellora Nala is flowing Through boundary of Lease. The Nallah will be Diverted in consultation with the Water Resource Department of the State Government.	It is proposed to divert both Bellora and Takli Nalla along the eastern boundary. Bellora Nallah is proposed to be diverted in Y-1 for OC working near the southern portion of the pit area Main diversion of the Bellora Nallah is proposed between Y-6 and Y-8 towards the eastern boundary. Total length of the diversion is proposed to be 3.52km. Takli Nallah diversion is proposed in Y-12 towards the eastern boundary for a length of 1.64 km
5	ToR conditions at 4 (i)	Public consultation to be held in both districts.	As the coal block is located in Chandrapur district only , we hereby request the EAC members to grant

			permission to carry out the Public consultation only at Chandrapur District.
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26.8.3 **26.8.2** *The EAC, after deliberations observed the proposal for amendment in Terms of Reference is not specifically pertains to conditions of ToR but it is submitted to have change in configuration of project such as change in the geological reserves and percentage of extraction, increase in the life of mine by four years, typo error that is arising from change in mining plan or ground and based on approved Mine Plan.*

Regarding diversion of streams/nallah, earlier PP had submitted that only Bellora stream/nallah shall be diverted but it has not been proposed to divert both Bellora and Takli Nalla along the eastern boundary. EAC desires that no diversion of these stream shall take place for atleast 8 and 12 years respectively due to rich biodiversity of area and meanwhile detailed study for diversion with respect to stage wise coal excavation shall be provided in EIA/EMP report.

26.8.3 *Finally after deliberation, EAC recommend the following changes in amendment in TOR*

Sr. No	Reference	Description as per approved ToR	Recommendations of EAC
1	Title of the Project	“Takli Jena Bellora (North & South) Opencast cum Underground Coal Mine of overall capacity 1.5 MTPA in total area of 936 Ha (OC-236.9 Ha; UG - 699.10 Ha) of M/s Aurobindo Realty Infrastructure Pvt Ltd (ARIPL) in Village Bellora, Tehsil Bhadravati, District Chandrapur Maharashtra.	“Takli-Jena-Bellora (North) & Takli-Jena-Bellora (South) Opencast cum Underground Coal Mine of overall capacity 1.5 MTPA in total area of 936 Ha (OC-236.9 Ha; UG - 699.10 Ha) of M/s Aurobindo Realty Infrastructure Pvt Ltd (ARIPL) in Village Bellora, Tehsil Bhadravati, District Chandrapur Maharashtra”
2	At para 2(x)	Area of surface water body is NIL in pre-mining land use details	Area of surface water body is 12.5 ha in pre-mining landuse details.
2	At para 2 (xi)	Total Geological reserve: 100.637 MT Mineable reserve: 88.5 MT Percent of Extraction: (OC – 80%; UG – 35%)	Total Geological reserve: 92.31MT Mineable reserve: 63.56 MT Percent of Extraction (OC – 73%; UG – 33.4%) Percentage of Extraction (Overall) – 41.1%

3	At para 2(xiv)	Life of mine is 30 years	Life of mine is 34 years
4	At para 2 (xxii)	Regarding Nala diversion: Bellora Nala is flowing Through boundary of Lease. The Nallah will be Diverted in consultation with the Water Resource Department of the State Government.	<i>No diversion of Bellora & Takli stream shall be undertaken before first 10 years with necessary justification of stage wise mining operations.</i>
5	ToR conditions at 4 (i)	Public consultation to be held in both districts.	Public hearing to be conducted in Chandrapur district only.

*In view of above observation, EAC **recommended** the proposal for amendment in details of project submitted as above and accordingly modify the title of the project to be “Takli-Jena-Bellora (North) & Takli-Jena-Bellora (South) Opencast cum Underground Coal Mine of overall capacity 1.5 MTPA in total area of 936 Ha (OC-236.9 Ha; UG - 699.10 Ha) of M/s Aurobindo Realty Infrastructure Pvt Ltd (ARIPL) in Village Bellora, Tehsil Bhadravati, District Chandrapur Maharashtra” under the provisions of EIA Notification, 2006 and its amendments therein. All other conditions stipulated in ToR vide no J-11015/62/2021-IA.II(M) dated 04/10/2021 shall remain unchanged.*

The meeting ended with thanks to the Chair.

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

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

(a) Statutory compliance

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

(b) Air quality monitoring and preservation

- (i) Continuous ambient air quality monitoring stations as prescribed in the statute be established in the core zone as well as in the buffer zone for monitoring of pollutants, namely PM₁₀, PM_{2.5}, SO₂ and NO_x. Location of the stations shall be decided based on the meteorological data, topographical features and environmentally and ecologically sensitive targets in consultation with the State Pollution Control Board. Online ambient air quality monitoring stations may also be installed in addition to the regular monitoring stations as per the requirement and/or in consultation with the SPCB. Monitoring of heavy metals such as Hg, As, Ni, Cd, Cr, etc to be carried out at least once in six months.
- (ii) The Ambient Air Quality monitoring in the core zone shall be carried out to

- ensure the Coal Industry Standards notified vide GSR 742 (E) dated 25th September, 2000 and as amended from time to time by the Central Pollution Control Board. Data on ambient air quality and heavy metals such as Hg, As, Ni, Cd, Cr and other monitoring data shall be regularly reported to the Ministry/Regional Office and to the CPCB/SPCB.
- (iii) Transportation of coal, to the extent permitted by road, shall be carried out by covered trucks/conveyors. Effective control measures such as regular water/mist sprinkling/rain gun etc shall be carried out in critical areas prone to air pollution (with higher values of PM₁₀/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 airborne dust. Side cladding all along the conveyor gantry should be made to avoid air borne dust. Drills shall be wet operated or fitted with dust extractors.
 - (vii) Coal handling plant shall be operated with effective control measures w.r.t. various environmental parameters. Environmental friendly sustainable technology should be implemented for mitigating such parameters.
- (c) Water quality monitoring and preservation**
- (i) The effluent discharge (mine waste water, workshop effluent) shall be monitored in terms of the parameters notified under the Water Act, 1974 Coal Industry Standards vide GSR 742 (E) dated 25th September, 2000 and as amended from time to time by the Central Pollution Control Board.
 - (ii) The monitoring data shall be uploaded on the company's website and displayed at the project site at a suitable location. The circular No. J-20012/1/2006-1A.11 (M) dated 27th May, 2009 issued by Ministry of Environment, Forest and Climate Change shall also be referred in this regard for its compliance.
 - (iii) Regular monitoring of ground water level and quality shall be carried out in and

- around the mine lease area by establishing a network of existing wells and constructing new piezometers during the mining operations. The monitoring of ground water levels shall be carried out four times a year i.e. pre-monsoon, monsoon, post-monsoon and winter. The ground water quality shall be monitored once a year, and the data thus collected shall be sent regularly to MOEFCC/RO.
- (iv) Monitoring of water quality upstream and downstream of water bodies shall be carried out once in six months and record of monitoring data shall be maintained and submitted to the Ministry of Environment, Forest and ClimateChange/Regional Office.
 - (v) Ground water, excluding mine water, shall not be used for mining operations. Rainwater harvesting shall be implemented for conservation and augmentation of ground water resources.
 - (vi) Catch and/or garland drains and siltation ponds in adequate numbers and appropriate size shall be constructed around the mine working, coal heaps & OB dumps to prevent run off of water and flow of sediments directly into the river and water bodies. Further, dump material shall be properly consolidated/ compacted and accumulation of water over dumps shall be avoided by providing adequate channels for flow of silt into the drains. The drains/ ponds so constructed shall be regularly de-silted particularly before onset of monsoon and maintained properly. Sump capacity should provide adequate retention period to allow proper settling of silt material. The water so collected in the sump shall be utilised for dust suppression and green belt development and other industrial use. Dimension of the retaining wall constructed, if any, at the toe of the OB dumps within the mine to check run-off and siltation should be based on the rainfall data. The plantation of native species to be made between toe of the dump and adjacent field/habitation/water bodies.
 - (vii) Adequate groundwater recharge measures shall be taken up for augmentation of ground water. The project authorities shall meet water requirement of nearby village(s) after due treatment conforming to the specific requirement (standards).
 - (viii) Industrial waste water generated from CHP, workshop and other waste water, shall be properly collected and treated so as to conform to the standards prescribed under the standards prescribed under Water Act 1974 and Environment (Protection) Act, 1986 and the Rules made there under, and as amended from time to time. Adequate ETP /STP needs to be provided.
 - (ix) The water pumped out from the mine, after siltation, shall be utilized for industrial purposive. watering the mine area, roads, green belt development etc. The drains shall be regularly desilted particularly after monsoon and maintained properly.
 - (x) The surface drainage plan including surface water conservation plan for the area of influence affected by the said mining operations, considering the

- presence of river/rivulet/pond/lake etc, shall be prepared and implemented by the project proponent. The surface drainage plan and/or any diversion of natural water courses shall be as per the approved Mining Plan/EIA/EMP report and with due approval of the concerned State/GoI Authority. The construction of embankment to prevent any danger against inrush of surface water into the mine should be as per the approved Mining Plan and as per the permission of DGMS or any other authority as prescribed by the law.
- (xi) The project proponent shall take all precautionary measures to ensure riverine/riparian ecosystem in and around the coal mine up to a distance of 5 km. A riverine/riparian ecosystem conservation and management plan should be prepared and implemented in consultation with the irrigation / water resource department in the state government.
- (d) Noise and Vibration monitoring and prevention**
- (i) Adequate measures shall be taken for control of noise levels as per Noise Pollution Rules, 2016 in the work environment. Workers engaged in blasting and drilling operations, operation of HEMM, etc shall be provided with personal protective equipments (PPE) like ear plugs/muffs in conformity with the prescribed norms and guidelines in this regard. Adequate awareness programme for users to be conducted. Progress in usage of such accessories to be monitored.
- (ii) Controlled blasting techniques shall be practiced in order to mitigate ground vibrations, fly rocks, noise and air blast etc., as per the guidelines prescribed by the DGMS.
- (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 & its RO on six-monthly basis.
- (ii) The project proponent shall undertake occupational health survey for initial and periodical medical examination of the personnel engaged in the project and maintain records accordingly as per the provisions of the Mines Rules, 1955 and DGMS circulars. Besides regular periodic health check-up, 20% of the personnel identified from workforce engaged in active mining operations shall be subjected to health check-up for occupational diseases and hearing impairment, if any, as amended time to time.
- (iii) Personnel (including outsourced employees) working in core zone shall wear protective respiratory devices and shall also be provided with adequate training and information on safety and health aspects.
- (iv) Implementation of the action plan on the issues raised during the public hearing shall be ensured. The project proponent shall undertake all the tasks/measures as per the action plan submitted with budgetary provisions during the public hearing. Land oustees shall be compensated as per the norms laid down in the R&R policy of the company/State Government/Central Government, as applicable.
- (v) The project proponent shall follow the mitigation measures provided in this Ministry's OM No.Z-11013/5712014-IA.II (M) dated 29th October, 2014, titled 'Impact of mining activities on habitations-issues related to the mining projects wherein habitations and villages are the part of mine lease areas or habitations and villages are surrounded by the mine lease area'.

(i) Corporate Environment Responsibility

- (i) The project proponent shall comply with the provisions contained in this Ministry's OM vide F.No.22-65/2017-IA.III dated 1st May 2018, as applicable, regarding Corporate Environment Responsibility.
- (ii) The company shall have a well laid down environmental policy duly approved by the Board of Directors. The environmental policy should prescribe for standard operating procedures to have proper checks and balances and to

- bring into focus any infringements/deviation/violation of the environmental/forest/wildlife norms/conditions. The company shall have defined system of reporting infringements/deviation/violation of the environmental/forest/wildlife norms/conditions and/or shareholders/stake holders.
- (iii) A separate Environmental Cell both at the project and company head quarter level, with qualified personnel shall be set up under the control of senior Executive, who will directly to the head of the organization.
 - (iv) Action plan for implementing EMP and environmental conditions along with responsibility matrix of the company shall be prepared and shall be duly approved by competent authority. The year wise funds earmarked for environmental protection measures shall be kept in separate account and not to be diverted for any other purpose. Year wise progress of implementation of action plan shall be reported to the Ministry/Regional Office along with the Six Monthly Compliance Report.
 - (v) Self-environmental audit shall be conducted annually. Every three years third party environmental audit shall be carried out.
 - (j) **Miscellaneous**
 - (i) The project proponent shall make public the environmental clearance granted for their project along with the environmental conditions and safeguards at their cost by prominently advertising it at least in two local newspapers of the District or State, of which one shall be in the vernacular language within seven days and in addition this shall also be displayed in the project proponent's website permanently.
 - (ii) The copies of the environmental clearance shall be submitted by the project proponents to the Heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt.
 - (iii) The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and update the same on half-yearly basis.
 - (iv) The project proponent shall monitor the criteria pollutants level namely; PM₁₀, SO₂, NO_x(ambient levels) or critical sectoral parameters, indicated for the projects and display the same at a convenient location for disclosure to the public and put on the website of the company.
 - (v) The project proponent shall submit six-monthly reports on the status of the compliance of the stipulated environmental conditions on the website of the ministry of Environment, Forest and Climate Change at environment clearance portal.
 - (vi) The project proponent shall follow the mitigation measures provided in this Ministry's OMNo.Z-11013/5712014-IA.II (M) dated 29th October, 2014, titled 'Impact of mining activities on habitations-issues related to the mining

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

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

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

I. Statutory compliance:

- (i) The Environmental clearance shall be subject to orders of Hon'ble Supreme Court of India, Hon'ble High Courts, NGT and any other Court of Law, from time to time, and as applicable to the project
- (ii) The project proponent shall obtain forest clearance under the provisions of Forest (Conservation) Act, 1986, in case of the diversion of forest land for non-forest purpose involved in the project.
- (iii) The project proponent shall obtain clearance from the National Board for Wildlife, if applicable.
- (iv) The project proponent shall prepare a Site-Specific Conservation Plan / Wildlife Management Plan and approved by the Chief Wildlife Warden. The recommendations of the approved Site-Specific Conservation Plan / Wildlife Management Plan shall be implemented in consultation with the State Forest Department. The implementation report shall be furnished along with the six-monthly compliance report. (in case of the presence of schedule-I species in the study area)
- (v) The project proponent shall obtain Consent to Establish / Operate under the provisions of Air (Prevention & Control of Pollution) Act, 1981 and the Water (Prevention & Control of Pollution) Act, 1974 from the concerned State Pollution Control Board/ Committee.
- (vi) The project proponent shall obtain the necessary permission from the Central Ground Water Authority.
- (vii) Solid waste/hazardous waste generated in the mines needs to be addressed in accordance to the Solid Waste Management Rules, 2016 / Hazardous & Other Waste Management Rules, 2016

II. Air quality monitoring and preservation

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

SPCB

- ii. The Ambient Air Quality monitoring in the core zone shall be carried out to ensure the Coal Industry Standards notified vide GSR 742 (E) dated 25.9.2000 and as amended from time to time by the Central Pollution Control Board. Data on ambient air quality and heavy metals such as Hg, As, Ni, Cd, Cr and other monitoring data shall be regularly reported to the Ministry/Regional Office and to the CPCB/SPCB.
- iii. Transportation of coal, to the extent permitted by road, shall be carried out by covered trucks/conveyors. Effective control measures such as regular water sprinkling/rain gun/ mist sprinkling etc., shall be carried out in critical areas prone to air pollution with higher level of particulate matter all through the coal transport roads, loading/unloading and transfer points. Fugitive dust emissions from all sources shall be controlled regularly. It shall be ensured that the ambient air quality parameters conform to the norms prescribed by the Central/State Pollution Control Board.
- iv. Major approach roads shall be black topped and properly maintained.
- v. The transportation of coal shall be carried out as per the provisions and route proposed in the approved mining plan. Transportation of the coal through the existing road passing through any village shall be avoided. In case, it is proposed to construct a 'bypass' road, it should be so constructed that the impact of sound, dust and accidents could be appropriately mitigated.
- vi. Vehicular emissions shall be kept under control and regularly monitored. All the vehicles engaged in mining and allied activities shall operate only after obtaining 'PUC' certificate from the authorized pollution testing centres.
- vii. Coal stock pile/crusher/feeder and breaker material transfer points shall invariably be provided with dust suppression system. Belt-conveyors shall be fully covered to avoid airborne dust. Side cladding all along the conveyor gantry should be made to avoid air borne dust. Drills shall be wet operated or fitted with dust extractors.
- viii. Coal handling plant shall be operated with effective control measures w.r.t. various environmental parameters. Environmental friendly sustainable technology should be implemented for mitigating such parameters.

III. Water quality monitoring and preservation

- i. The effluent discharge (mine waste water, workshop effluent) shall be monitored in terms of the parameters notified under the Water Act, 1974 Coal Industry Standards vide GSR 742 (E) dated 25.9.2000 and as amended from time to time by the Central Pollution Control Board.
- ii. The monitoring data shall be uploaded on the company's website and displayed at the project site at a suitable location. The circular No. J-20012/1/2006-1A.11 (M) dated 27.05.2009 issued by Ministry of Environment, Forest and Climate Change shall also be referred in this regard for its compliance.

- iii. Regular monitoring of ground water level and quality shall be carried out in and around the mine lease area by establishing a network of existing wells and constructing new piezometers during the mining operations. The monitoring of ground water levels shall be carried out four times a year i.e. pre-monsoon, monsoon, post-monsoon and winter. The ground water quality shall be monitored once a year, and the data thus collected shall be sent regularly to MOEFCC/RO.
- iv. Monitoring of water quality upstream and downstream of water bodies shall be carried out once in six months and record of monitoring data shall be maintained and submitted to the Ministry of Environment, Forest and ClimateChange/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. 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 reversion/ riparian ecosystem in and around the coal mine upto a distance of 5 km. A reversion /riparian ecosystem conservation and management plan should be prepared and implemented in consultation with the irrigation / water resource department in the state government.

IV. Noise and Vibration monitoring and prevention

- i. Adequate measures shall be taken for control of noise levels below 85 dB(A) in the work environment. Workers engaged in underground mining operations, operation of HEMM, etc. shall be provided with personal protective equipments (PPE) like ear plugs/muffs in conformity with the prescribed norms/guidelines in this regard. Progress in usage of such accessories to be monitored. Adequate awareness programme for users to be conducted.
- ii. The noise level survey shall be carried out as per the prescribed guidelines to assess noise exposure of the workmen at vulnerable points in the mine premises, and report in this regard shall be submitted to the Ministry/RO on six-monthly basis.

V. Mining Plan

- i. Mining shall be carried out under strict adherence to provisions of the Mines Act 1952 and subordinate legislations made there-under as applicable.
- ii. No change in mining method i.e. UG to OC, calendar programme and scope of work shall be made without obtaining prior approval of the Ministry of Environment, Forests and Climate Change (MoEFCC).
- iii. Mining shall be carried out as per the approved mining plan (including mine closure plan) abiding by mining laws related to coal mining and the relevant circulars issued by Directorate General Mines Safety (DGMS).
- iv. Underground work place environmental conditions shall be rendered ergonomic and air breathable with adequate illumination in conformance with DGMS standards.
- v. No mining activity shall be carried out in forest land without obtaining Forestry Clearance as per Forest (Conservation) Act, 1980 and also adhering to The Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 read with provisions of Indian Forest Act, 1927.
- vi. Efforts should be made to reduce energy and fuel consumption by

conservation, efficiency improvements and use of renewable energy.

VI. Land reclamation

- i. Digital Survey of entire lease hold area/core zone using Satellite Remote Sensing survey shall be carried out at least once in three years for monitoring land use pattern and report in 1:50,000 scale or as notified by Ministry of Environment, Forest and Climate Change (MOEFCC) from time to time shall be submitted to MOEFCC/Regional Office (RO).
- ii. Post-mining land be rendered usable for agricultural/forestry purposes and shall be handed over to the respective State Government, as specified in the Guidelines for Preparation of Mine Closure Plan, issued by the Ministry of Coal dated 27th August, 2009 and subsequent amendments.
- iii. Regular monitoring of subsidence movement on the surface over and around the working areas and its impact on natural drainage pattern, water bodies, vegetation, structure, roads and surroundings shall be continued till movement ceases completely. In case of observation of any high rate of subsidence beyond the limit prescribed, appropriate effective mitigation measures shall be taken to avoid loss of life and materials. Cracks should be effectively plugged in with ballast and clay soil/suitable material.
- iv. Fly ash shall be used for external dump of overburden, backfilling or stowing of mine as per provisions contained in clause (i) and (ii) of subparagraph (8) of fly ash notification issued vide SO 2804 (E) dated 3rd November, 2009 as amended from time to time. Efforts shall be made to utilize gypsum generated from Flue Gas Desulfurization (FGD), if any, along with fly ash for external dump of overburden, backfilling or stowing of mines. Compliance report shall be submitted to Regional Office of MoEF&CC, CPCB and SPCB.
- v. A separate team for subsidence monitoring and surface mitigation measures shall be constituted and continuous monitoring & implementation of mitigation measures be carried out.
- vi. Thorough inspection of the mine lease area for any cracks developed at the surface due to mining activities below ground shall be carried out to prevent inrush of water in the mine.
- vii. Native tree species shall be selected and planted over areas affected by subsidence.
- viii. The project proponent shall make necessary alternative arrangements, if grazing land is involved in core zone, in consultation with the State government to provide alternate areas for livestock grazing, if any. In this context, the project proponent shall implement the directions of Hon'ble Supreme Court with regard to acquiring grazing land.

VII. Green Belt

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

- Department.
- ii. Greenbelt, consisting of three-tier plantation, of width not less than 7.5 m, shall be developed all along the mine lease area in a phased manner. The green belt comprising of a mix of native species shall be developed all along the major approach roads/ coal transportation roads.

VIII. Public hearing and Human health issues

- i. Adequate illumination shall be ensured in all mine locations (as per DGMS standards) and monitored.
- ii. The Project Proponent shall undertake Occupational Health survey for initial and Periodical medical examination of the workers engaged in the Project and maintain records accordingly as per the provisions of the Mines Rules, 1955 and DGMS Circulars. Besides carrying out regular periodic health check-up of their workers, 20% of the workers engaged in active mining operations shall be subjected to health check-up for occupational diseases and hearing impairment, if any.
- iii. Personnel (including outsourcing employees) working in dusty areas shall wear protective respiratory devices and shall also be provided with adequate training and information on safety and health aspects.
- iv. Skill training as per safety norms specified by DGMS shall be provided to all workmen including the outsourcing employees to ensure high safety standards in mines.
- v. Effective arrangement shall be made to provide and maintain at suitable points conveniently situated, a sufficient supply of drinking water for all the persons employed.
- vi. Implementation of Action Plan on the issues raised during the Public Hearing shall be ensured. The Project Proponent shall undertake all the tasks as per the Action Plan submitted with budgetary provisions during the Public Hearing. Land oustees shall be compensated as per the norms laid out R&R Policy of the Company/ or the National R&R Policy/ R&R Policy of the State Government, as applicable
- vii. The project proponent shall follow the mitigation measures provided in this Ministry's OM No.Z-11013/5712014-IA.II (M) dated 29th October, 2014, titled 'Impact of mining activities on habitations-issues related to the mining projects wherein habitations and villages are the part of mine lease areas or habitations and villages are surrounded by the mine lease area'.

IX. Corporate Environment Responsibility

- i. The project proponent shall comply with the provisions contained in this Ministry's OM vide F.No. 22-65/2017-IA.III dated 1st May 2018, as applicable, regarding Corporate Environment Responsibility.
- ii. The company shall have a well laid down environmental policy duly approved by the Board of Directors. The environmental policy should prescribe for standard operating procedures to have proper checks and balances and to bring

- into focus any infringements/deviation/violation of the environmental / forest / wildlife norms / conditions. The company shall have defined system of reporting infringements / deviation/ violation of the environmental / forest / wildlife norms / conditions and / or shareholders / stake holders. The copy of the board resolution in this regard shall be submitted to the MoEF&CC as a part of six-monthly report.
- iii. A separate Environmental Cell both at the project and company head quarter level, with qualified personnel shall be set up under the control of senior Executive, who will directly to the head of the organization.
 - iv. Action plan for implementing EMP and environmental conditions along with responsibility matrix of the company shall be prepared and shall be duly approved by competent authority. The year wise funds earmarked for environmental protection measures shall be kept in separate account and not to be diverted for any other purpose. Year wise progress of implementation of action plan shall be reported to the Ministry/Regional Office along with the Six Monthly Compliance Report.
 - v. Self-environmental audit shall be conducted annually. Every three years third party environmental audit shall be carried out.

X. Miscellaneous

- i. The project proponent shall make public the environmental clearance granted for their project along with the environmental conditions and safeguards at their cost by prominently advertising it at least in two local newspapers of the District or State, of which one shall be in the vernacular language within seven days and in addition this shall also be displayed in the project proponent's website permanently.
- ii. The copies of the environmental clearance shall be submitted by the project proponents to the Heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt.
- iii. The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and update the same on half-yearly basis.
- iv. The project proponent shall submit six-monthly reports on the status of the compliance of the stipulated environmental conditions on the website of the ministry of Environment, Forest and Climate Change at environment clearance portal.
- v. The project proponent shall submit the environmental statement for each financial year in Form-V to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently and put on the website of the company.
- vi. The project authorities shall inform to the Regional Office of the MOEFCC regarding commencement of mining operations.

- vii. The project authorities must strictly adhere to the stipulations made by the State Pollution Control Board and the State Government.
- viii. The project proponent shall abide by all the commitments and recommendations made in the EIA/EMP report, commitment made during Public Hearing and also that during their presentation to the Expert Appraisal Committee.
- ix. No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment, Forests and Climate Change (MoEF&CC).
- x. Concealing factual data or submission of false/fabricated data may result in revocation of this environmental clearance and attract action under the provisions of Environment (Protection) Act, 1986.
- xi. The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.
- xii. The Ministry reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner shall implement these conditions.
- xiii. The Regional Office of this Ministry shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer
(s) of the Regional Office by furnishing the requisite data / information/monitoring reports.
- xiv. The above conditions shall be enforced, inter-alia under the provisions of the Water(Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 and the Public Liability Insurance Act, 1991 along with their amendments and Rules and any other orders passed by the Hon'ble Supreme Court of India / High Courts and any other Court of Law relating to the subject matter.
- xv. Any appeal against this EC shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.

Standard EC Conditions for Coal Washery Project

I. Statutory compliance:

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

II. Air quality monitoring and preservation

- i. Adequate ambient air quality monitoring stations shall be established in the core zone as well as in the buffer zone for monitoring of pollutants, namely particulates, SO₂ and NO_x. Location of the stations shall be decided based on the meteorological data, topographical features and environmentally and ecologically sensitive receptors in consultation with the State Pollution Control Board. Monitoring of heavy metals such as Hg, As, Ni, Cd, Cr, etc. carried out at least once in six months.
- ii. Continuous ambient air quality monitoring stations as prescribed in the statute be established in the core zone as well as in the buffer zone for monitoring of pollutants, namely PM₁₀, PM_{2.5}, SO₂ and NO_x. Location of the stations shall be decided based on the meteorological data, topographical features and environmentally and ecologically sensitive targets in consultation with the

- State Pollution Control Board. Online ambient air quality monitoring stations may also be installed in addition to the regular monitoring stations as per the requirement and/or in consultation with the SPCB. Monitoring of heavy metals such as Hg, As, Ni, Cd, Cr, etc to be carried out at least once in six months.
- iii. Transportation of coal by road shall be carried out by covered trucks/conveyors. The transportation of clean coal and rejects shall be by rail with wagon loading through silo. Effective measures such as regular water sprinkling shall be carried out in critical areas prone to air pollution and having high levels of particulates such as roads, belt conveyors, loading/unloading and transfer points. Fugitive dust emissions from all sources shall be controlled at source. It shall be ensured that the ambient air quality parameters conform to the norms prescribed by the Central/State Pollution Control Board
 - iv. All approach roads shall be black topped and internal roads shall be concreted. The roads shall be regularly cleaned. Coal transportation shall be carried out by covered trucks.
 - v. Covered trucks shall be engaged for mineral transportation outside the washery up to the railway siding, shall be optimally loaded to avoid spillage en-route. Trucks shall be adequately maintained and emissions shall be below notified limits.
 - vi. Facilities for parking of trucks carrying raw material from linked mine shall be created within the unit.
 - vii. Vehicular emissions shall be kept under control and regularly monitored. The vehicles having 'PUC' certificate from authorized pollution testing centres shall be deployed for washery operations.
 - viii. Hoppers of the coal crushing unit and other washery units shall be fitted with high efficiency bag filters/mist spray water sprinkling system shall be installed and operated effectively at all times of operation to check fugitive emissions from crushing operations, transfer points of closed belt conveyor systems and from transportation roads.
 - ix. The raw coal, washed coal and coal wastes (rejects) shall be stacked properly at earmarked site (s) within stockyards fitted with wind breakers/shields. Adequate measures shall be taken to ensure that the stored mineral does not catch fire.
 - x. The temporary reject sites should appropriate planned and designed to avoid air and water pollution from such sites.

III. Water quality monitoring and preservation

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

- time to time by the Central Pollution Control Board.
- ii. The monitoring data shall be uploaded on the company's website and displayed at the project site at a suitable location. The circular No. J-20012/1/2006-IA.11 (M) dated 27.05.2009 issued by Ministry of Environment, Forest and Climate Change shall also be referred in this regard for compliance.
 - iii. Industrial waste water shall be properly collected and treated so as to conform to the standards prescribed under the Environment (Protection) Act, 1986 and the Rules made there under, and as amended from time to time.
 - iv. The project proponent shall not alter major water channels around the site. Appropriate embankment shall be provided along the side of the river/nallah flowing near or adjacent to the washery. The embankment constructed along the river/nallah boundary shall be of suitable dimensions and critical patches shall be strengthened by stone pitching on the riverfront side stabilised with plantation so as to withstand the peak water pressure preventing any chance of inundation.
 - v. Heavy metal content in raw coal and washed coal shall be analysed once in a year and records maintained thereof.
 - vi. The rejects should preferably be utilized in FBC power plant or disposed off through sale for its gainful utilization. If the coal washery rejects are to be disposed off, it should be done in a safe and sustainable manner with adequate compaction and post closure arrangement to avoid water pollution due to leachate from rejects and surface run off from reject dumping sites.
 - vii. An Integrated Surface Water Management Plan for the washery area up to its buffer zone considering the presence of any river/rivulet/pond/lake etc. with impact of coal washing activities on it, shall be prepared, submitted to MoEFCC and implemented.
 - viii. Waste Water shall be effectively treated and recycled completely either for washery operations or maintenance of green belt around the plant.
 - ix. Rainwater harvesting in the washery premises shall be implemented for conservation and augmentation of ground water resources in consultation with Central Ground Water Board.
 - x. No ground water shall be used for coal washing unless otherwise permitted in writing by competent authority (CGWA) or MoEFCC. The make-up water requirement of washery should not exceed 1.5 m³/tonne of raw coal.
 - xi. Regular monitoring of ground water level and quality shall be carried out in and around the mine lease area by establishing a network of existing wells and constructing new piezometers during the mining operations. The monitoring of ground water levels shall be carried out four times a year i.e. pre-monsoon, monsoon, post-monsoon and winter. The ground water quality shall be monitored once a year, and the data thus collected shall be sent regularly to MOEFCC/RO.

- 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 ClimateChange/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 withthe 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 submittedto this ministry & its RO on six-monthly basis.

- ii. The project proponent shall undertake occupational health survey for initial and periodical medical examination of the personnel engaged in the project and maintain records accordingly as per the provisions of the Mines Rules, 1955 and DGMS circulars. Besides regular periodic health check-up, 20% of the personnel identified from workforce engaged in active mining operations shall be subjected to health check-up for occupational diseases and hearing impairment, if any. as amended time to time.
- iii. Personnel (including outsourced employees) working in core zone shall wear protective respiratory devices and shall also be provided with adequate training and information on safety and health aspects.
- iv. Implementation of the action plan on the issues raised during the public hearing shall be ensured. The project proponent shall undertake all the tasks/measures as per the action plan submitted with budgetary provisions during the public hearing. Land oustees shall be compensated as per the norms laid down in the R&R policy of the company/State Government/Central Government, as applicable.
- v. The project proponent shall follow the mitigation measures provided in this Ministry's OM No.Z-11013/5712014-IA.II (M) dated 29th October, 2014, titled 'Impact of mining activities on habitations-issues related to the mining projects wherein habitations and villages are the part of mine lease areas or habitations and villages are surrounded by the mine lease area'.

VIII. Corporate Environment Responsibility

- i. The project proponent shall comply with the provisions contained in this Ministry's OM vide F.No. 22-65/2017-IA.III dated 1st May 2018, as applicable, regarding Corporate Environment Responsibility.
- ii. The company shall have a well laid down environmental policy duly approved by the Board of Directors. The environmental policy should prescribe for standard operating procedures to have proper checks and balances and to bring into focus any infringements/deviation/violation of the environmental / forest / wildlife norms / conditions. The company shall have defined system of reporting infringements / deviation / violation of the environmental / forest / wildlife norms / conditions and / or shareholders / stake holders. The copy of the board resolution in this regard shall be submitted to the MoEF&CC as a part of six-monthly report.
- iii. A separate Environmental Cell both at the project and company head quarter level, with qualified personnel shall be set up under the control of senior Executive, who will directly to the head of the organization.
- iv. Action plan for implementing EMP and environmental conditions along with responsibility matrix of the company shall be prepared and shall be duly approved by competent authority. The year wise funds earmarked for environmental protection measures shall be kept in separate account and not to be diverted for any other purpose. Year wise progress of implementation of

- action plan shall be reported to the Ministry/Regional Office along with the Six Monthly Compliance Report.
- v. Self-environmental audit shall be conducted annually. Every three years third party environmental audit shall be carried out.

IX. Miscellaneous

- i. The project proponent shall make public the environmental clearance granted for their project along with the environmental conditions and safeguards at their cost by prominently advertising it at least in two local n
- ii. 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.
- 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; PM10, SO2, NOx (ambient levels) or critical sectoral parameters, indicated for the projects and display the same at a convenient location for disclosure to the public and put on the website of the company.
- 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 subjectmatter.
 - xvii. Any appeal against this EC shall lie with the National Green Tribunal, if preferred, within period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.

Generic ToR for coal washery

- i. Siting of washery is critical considering to its environmental impacts. Preference should be given to the site located at pit head; in case such a site is not available, the site should be as close to the pit head as possible and coal should be transported from mine to the washer preferably through closed conveyerbelt to avoid air pollution.
- ii. The washery shall not be located in eco-sensitive zones areas.
- iii. The washery should have a closed system and zero discharge. The storm drainage should be treated in settling ponds before discharging into rivers/streams/water bodies.
- iv. A thick Green belt of about 50 m width should be developed surrounding the washery.
- v. A brief description of the plant along with a layout, the specific technology used and the source of coal should be provided.
- vi. The EIA-EMP Repot should cover the impacts and management plan for the project of the capacity for which EC is sought and the impacts of specific activities, including the technology used and coal used, on the environment of the area (within 10km radius), and the environmental quality of air, water, land, biotic community, etc. through collection of data and information, generation of data on impacts for the rated capacity. Cumulative impacts for air and water should be a part of EIA in case coal mine, TPP and other washeries are located within 10km radius. The EIA should also include mitigative measures needed to minimize adverse environmental impacts.
- vii. A Study Area Map of the core zone as well as the 10km area of buffer zone showing major industries/mines and other polluting sources should be submitted. These maps shall also indicate the migratory corridors of fauna, if any and areas of endangered fauna; plants of medicinal and economic importance; any ecologically sensitive areas within the 10 km buffer zone; the shortest distance from the National Park/WL Sanctuary Tiger Reserve, etc. along with the comments of the Chief Wildlife Warden of the State Govt.
- viii. Data of one-season (non-monsoon) primary- base-line data on environmental quality of air (PM10, PM2.5, SOx and NOx, noise, water (surface and groundwater), soil be submitted.
- ix. The wet washery should generally utilize mine water only. In case mine water is not available, the option of storage of rain water and its use should be examined. Use of surface water and ground water should be avoided.
- x. Detailed water balance should be provided. The break-up of water requirement as per different activities in the mining operations vis-a-vis washery should be given. If the source of water is from surface water and/or ground water, the same may be justified besides obtaining approval of the

- Competent Authority for its drawl.
- xi. The entire sequence of mineral production, transportation, handling, transfer and storage of mineral and waste, if any, and their impacts on air quality should be shown in a flow chart with specific points where fugitive emissions can arise and specific pollution control/mitigative measures proposed to be put in place. The washed coal and rejects should be transport by train as far as possible. Road transport of washed coal and rejects should generally be avoided. In case, the TPP is within 10km radius, it should be through conveyer belt. If transport by rail is not feasible because of the topography of the area, the option for transport by road be examined in detail and its impacts along with the mitigation measures should be clearly brought out in EIA/EMP report.
 - xii. Details of various facilities proposed to be provided in terms of parking, rest areas, canteen etc. to the personnel involved in mineral transportation, workshop and effluents/pollution load from these activities should be provided.
 - xiii. Impacts of CHP, if any, on air and water quality should also be spelt out along with Action Plan.
 - xiv. O.M.no.J-11013/25/2014-IA.I dated 11th August, 2014 to be followed with regard to CSR activities.
 - xv. Details of Public Hearing, Notice(s) issued in newspapers, proceedings/minutes of Public Hearing, points raised by the general public and response/commitments made by the proponent along with the Action Plan and budgetary provisions be submitted in tabular form. If the Public Hearing is in the regional language, an authenticated English translation of the same should be provided. Status of any litigations/ court cases filed/pending, if any, against the project should be mentioned in EIA.
 - xvi. Analysis of samples indicating the following be submitted:
 - Characteristics of coal prior to washing (this includes grade of coal, other characteristics of ash, S and heavy levels of metals such as Hg, As, Pb, Cr etc).
 - Characteristics and quantum of coal after washing.
 - Characteristics and quantum of coal rejects.
 - xvii. Details of management/disposal/use of coal rejects should be provided. The rejects should be used in TPP located close to the washery as far as possible. If TPP is within a reasonable distance (10 km), transportation should be by conveyor belt. If it is far away, the transportation should be by rail as far as possible.
 - xviii. Copies of MOU/Agreement with linkages (for stand-alone washery) for the capacity for which EC is being sought should be submitted.
 - xix. Corporate Environment Responsibility:
 - a) The Company must have a well laid down Environment Policy approved

by the Board of Directors.

- b) The Environment Policy must prescribe for standard operating process/procedures to bring into focus any infringements/deviation/violation of the environmental or forest norms/conditions.
 - c) The hierarchical system or Administrative Order of the company to deal with environmental issues and for ensuring compliance with the environmental clearance conditions must be furnished.
 - d) To have proper checks and balances, the company should have a well laid down system of reporting of non-compliances/violations of environmental norms to the Board of Directors of the company and/or shareholders or stakeholders at large.
- xx. A detailed action Plan for Corporate Social Responsibility for the project affected people and people living in and around the project area should be provided.
 - xxi. Permission of drawl of water shall be pre-requisite for consideration of EC.
 - xxii. Wastewater /effluent should confirm to the effluent standards as prescribed under Environment (Protection) Act, 1986
 - xxiii. Details of washed coal, middling and rejects along with the MoU with the end-users should be submitted.

ANNEXURE-V

GENERIC TOR FOR AN OPENCAST COALMINE PROJECT for EC

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

- undisturbed along with any natural drainage adjoining the lease /project areas, and modification of thereof in terms of construction of embankments/bunds, proposed diversion/re-channeling of the water courses, etc., approach roads, major haul roads, etc should be indicated.
- (ix) In case of any proposed diversion of nallah/canal/river, the proposed route of diversion
/modification of drainage and their realignment, construction of embankment etc. should also be shown on the map as per the approval of Irrigation and flood control Department of the concerned state.
- (x) Similarly, if the project involves diversion of any road/railway line passing through the
ML/project area, the proposed route of diversion and its realignment should be shown in the map along with the status of the approval of the competent authority.
- (xi) Break up of lease/project area as per different land uses and their stage of acquisition should be provided.

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

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

- (xii) Break-up of lease/project area as per mining plan should be provided.
- (xiii) Impact of changes in the land use due to the project if the land is predominantly agricultural land/forestland/grazing land, should be provided.
- (xiv) One-season (other than monsoon) primary baseline data on environmental quality - air (PM10, PM2.5, SO_x, NO_x and heavy metals such as Hg, Pb, Cr, As, etc), noise, water (surface and groundwater), soil - along with one-season met data coinciding with the same season for AAQ collection period should be provided.
- (xv) Map (1: 50, 000 scale) of the study area (core and buffer zone) showing the location of various sampling stations superimposed with location of habitats,

- other industries/mines, polluting sources, should be provided. The number and location of the sampling stations in both core and buffer zones should be selected on the basis of size of lease/project area, the proposed impacts in the downwind (air)/downstream (surface water)/groundwater regime (based on flow). One station should be in the upwind/upstream/non-impact/non-polluting area as a control station. The monitoring should be as per CPCB guidelines and parameters for water testing for both ground water and surface water as per ISI standards and CPCB classification wherever applicable. Observed values should be provided along with the specified standards.
- (xvi) Study on the existing flora and fauna in the study area (10km) should be carried out by an institution of relevant discipline. The list of flora and fauna duly authenticated separately for the core and study area and a statement clearly specifying whether the study area forms a part of the migratory corridor of any endangered fauna should be given. If the study area has endangered flora and fauna, or if the area is occasionally visited or used as a habitat by Schedule-I species, or if the project falls within 15 km of an ecologically sensitive area, or used as a migratory corridor then a Comprehensive Conservation Plan along with the appropriate budgetary provision should be prepared and submitted with EIA-EMP Report; and comments/observation from the CWLW of the State Govt. should also be obtained and furnished.
 - (xvii) Details of mineral reserves, geological status of the study area and the seams to be worked, ultimate working depth and progressive stage-wise working scheme until the end of mine life should be provided on the basis of the approved rated capacity and calendar plans of production from the approved Mining Plan. Geological maps and sections should be included. The Progressive mine development and Conceptual Final Mine Closure Plan should also be shown in figures. Details of mine plan and mine closure plan approval of Competent Authority should be furnished for green field and expansion projects.
 - (xviii) Details of mining methods, technology, equipment to be used, etc., rationale for selection of specified technology and equipment proposed to be used vis-à-vis the potential impacts should be provided.
 - (xix) Impact of mining on hydrology, modification of natural drainage, diversion and channeling of the existing rivers/water courses flowing through the ML and adjoining the lease/project and the impact on the existing users and impacts of mining operations thereon.
 - (xx) Detailed water balance should be provided. The break-up of water requirement for the various mine operations should be given separately.
 - (xxi) Source of water for use in mine, sanction of the Competent Authority in the State Govt. and impacts vis-à-vis the competing users in the upstream and downstream of the project site. should be given.

- (xxii) Impact of mining and water abstraction from the mine on the hydrogeology and groundwater regime within the core zone and 10 km buffer zone including long-term monitoring measures should be provided. Details of rainwater harvesting and measures for recharge of groundwater should be reflected in case there is a declining trend of groundwater availability and/or if the area falls within dark/grey zone.
- (xxiii) Impact of blasting, noise and vibrations should be given.
- (xxiv) Impacts of mining on the AAQ and predictions based on modeling using the ISCST-3 (Revised) or latest model should be provided.
- (xxv) Impacts of mineral transportation within the mining area and outside the lease/project along with flow-chart indicating the specific areas generating fugitive emissions should be provided. Impacts of transportation, handling, transfer of mineral and waste on air quality, generation of effluents from workshop etc, management plan for maintenance of HEMM and other machinery/equipment should be given. Details of various facilities such as rest areas and canteen for workers and effluents/pollution load emanating from these activities should also be provided.
- (xxvi) Effort be made to reduce/eliminate road transport of coal inside and outside mine and for mechanized loading of coal through CHP/ Silo into wagons and trucks/tippers.
- (xxvii) Details of waste OB and topsoil generated as per the approved calendar programme, and their management shown in figures as well explanatory notes tables giving progressive development and mine closure plan, green belt development, backfilling programme and conceptual post mining land use should be given. OB dump heights and terracing based on slope stability studies with a max of 28° angle as the ultimate slope should be given. Sections of final dumps (both longitudinal and cross section) with relation to the adjacent area should be shown.
- (xxviii) Efforts be made for maximizing progressive internal dumping of O.B., sequential mining, external dump on coal bearing area and later rehandling into the mine void. --to reduce land degradation.
- (xxix) Impact of change in land use due to mining operations and plan for restoration of the mined area to its original land use should be provided.
- (xxx) Progressive Green belt and ecological restoration /afforestation plan (both in text, figures and in the tabular form as per the format of MOEFCC given below) and selection of species (native) based on original survey/land-use should be given.

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

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

* As a representative example

Table 2 : Stage Wise Cumulative Plantation

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

* As a representative example

(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			

GENERIC TORs FOR AN UNDERGROUND COAL MINE 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 through the ML and adjoining the lease/project and the impact on the existing users and impacts of mining operations thereon.
- (xii) One-season (other than monsoon) primary baseline data on environmental quality - air (PM₁₀, PM_{2.5}, SO_x, NO_x and heavy metals such as Hg, Pb, Cr, As, etc), noise, water (surface and groundwater), soil - along with one-season met data coinciding with the same season for AAQ collection period should be provided.
- (xiii) Map (1: 50, 000 scale) of the study area (core and buffer zone) showing the location of various sampling stations superimposed with location of habitats, other industries/mines, polluting sources, should be provided. The number and location of the sampling stations in both core and buffer zones should be selected on the basis of size of lease/project area, the proposed impacts in the downwind (air)/downstream (surface water)/groundwater regime (based on flow). One station should be in the upwind/upstream/non-impact/non-polluting area as a control station. The monitoring should be as per CPCB guidelines and parameters for water testing for both ground water and surface water as per ISI standards and CPCB classification wherever applicable. Observed values should be provided along with the specified standards.
- (xiv) Impact of mining and water abstraction from the mine on the hydrogeology and groundwater regime within the core zone and 10 km buffer zone including long-term monitoring measures should be provided. Details of rainwater harvesting and measures for recharge of groundwater should be reflected in case there is a declining trend of groundwater availability and/or if the area falls within dark/grey zone.
- (xv) Study on subsidence including modeling for prediction, mitigation/prevention of subsidence, continuous monitoring measures, and safety issues should be carried out.
- (xvi) Detailed water balance should be provided. The breakup of water requirement as per different activities in the mining operations, including use of water for sand stowing should be given separately. Source of water for use in mine, sanction of the Competent Authority in the State Govt. and impacts vis-à-vis the competing users should be provided.
- (xvii) Impact of choice of mining method, technology, selected use of machinery and impact on air quality, mineral transportation, coal handling & storage/stockyard, etc, Impact of blasting, noise and vibrations should be provided.
- (xviii) Impacts of mineral transportation within the mining area and outside the lease/project along with flow-chart indicating the specific areas generating

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

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

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

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

**GENERIC TORs FOR AN OPENCAST-CUM-UNDERGROUND
COALMINEPROJECT**

- (i) An EIA-EMP Report would be prepared for a combined peak capacity ofMTPA for OC-cum-UG project which consists of MTPA in an ML/project area of ha for OC and MTPA for UG in an ML/project area of ha based on the generic structure specified in Appendix III of the EIA Notification 2006.
- (ii) An EIA-EMP Report would be prepared for MTPA rated capacity to cover the impacts and environment management plan for the project specific activities on the environment of the region, and the environmental quality encompassing air, water, land, biotic community, etc. through collection of data and information, generation of data on impacts including prediction modeling for MTPA of coal production based on approved project/Mining Plan for MTPA. Baseline data collection can be for any season (three months) except monsoon.
- (iii) The ToRs prescribed for both opencast and underground mining are applicable for opencast – cum-underground mining.

LIST OF PARTICIPANTS OF EAC (COAL) IN 23rd MEETING OF HELD DURING
06th DECEMBER, 2021 THROUGH VIDEO CONFERENCING

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