

MINUTES OF 33rd MEETING OF THE EXPERT APPRAISAL COMMITTEE FOR ENVIRONMENT APPRAISAL OF COAL MINING PROJECTS HELD DURING 25-26 July, 2022 THROUGH VIDEO CONFERENCE.

Confirmation of the Minutes of 32nd Meeting of the EAC (Coal) held during 30th June, 2022: The minutes of the 32nd meeting of the EAC held during 30th June, 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 33rd meeting of the Expert Appraisal Committee (EAC) for coal mining projects was held on, 25-26 July, 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. 33.1

Jaganathpur-B Underground Coal Mine with a production capacity of 0.8 MTPA/1.20 MTPA (Normative/Peak) in mine area of 856.68 by M/s Powerplus Traders Private Limited (PTPL) located at Villages Sandipur, Basudevpur, Binodpur, Raj Hat, Sashipur, Dubrajpur, Majhidanga, Dandeswarpur, Ranipur, Shyamsunderpur, Jot Balarampur, Shrikrishnapur, Amdahi, Jagannathpur, Kalinagar, Tehsil Faridpur-Durgapur, District Paschim Bardhaman (West Bengal) - For Environmental Clearance- reg.

[Online proposal No. IA/WB/CMIN/210433/2021; F No. IA-J-11015/27/2021-IA-II(M)]

33.1.1 The proposal is for Environment Clearance of Jaganathpur-B Underground Coal Mine with a production capacity of 0.8 MTPA/1.20 MTPA (Normative/Peak) in mine area of 856.68 by M/s Powerplus Traders Private Limited (PTPL) located at Villages Sandipur, Basudevpur, Binodpur, Raj Hat, Sashipur, Dubrajpur, Majhidanga, Dandeswarpur, Ranipur, Shyamsunderpur, Jot Balarampur, Shrikrishnapur, Amdahi, Jagannathpur, Kalinagar, Tehsil Faridpur-Durgapur, District Paschim Bardhaman (West Bengal).

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

- (i) The project area is covered under Survey of India Topo Sheet No. 73M/6 and is bounded by the geographical coordinates ranging from 23°38'39" to 23°40'15" N and longitude 87°21'56" and 87°24'53" E.
- (ii) Coal linkage of the project is proposed for Orissa Metaliks Pvt Ltd, Rashmi Cement Ltd and Shyam Steel Manufacturing Ltd use for various activity like TMT Bars, Cement, etc.
- (iii) Joint venture cartel has been formed: Name of the JV Partner: Orissa Metaliks Pvt Ltd (share

- 54%); Rashmi Cement Ltd (share 23%): Shyam Steel Manufacturing Ltd (share 23%)
- (iv) Project does not fall in the Critically Polluted Area (CPA), where the MoEF&CC's vide its OM dated 13th January, 2010 has imposed moratorium on grant of environment clearance.
- (v) Employment generation for underground mining (Operations-920; Maintenance-420; Supervision-281); Surface-293; Reclamation and Environment-6; Executives-81 creating a total employment to 1920 persons will be provided by the project proponent. Unskilled Power of 36 number as watch and ward will also be engaged.
- (vi) Cost of Project: 35072 Lakhs (350.72 Crore)
- (vii) The project is reported to be beneficial in terms of (a) Employment Generation: Total 1920 people will get direct or in-direct employment by this proposed project; (b) Environmental: Greenbelt will be developed by the PP; (c) Financial: The PP will give the royalty and other taxes to the Govt. which will result of the financial growth of the state; (d) Improvement in Social and Physical Structure: A budget of 526 lakhs is proposed for improvement in social infrastructure under EMP for CER responsibilities, which includes training, Street Light (Solar&LED), Mobile Health Van, Road (7 KM), Community Hall, Drainage, Water for Drinking, Water for Agriculture, School, Pond Renovation, Garden Development, Village Cemetery, Dustbin, etc.
- (viii) Standard Terms of Reference issued vide no. F.No. IA-J-11015/27/2021-IA-II(M) on 2nd June, 2021 and amendment in Terms of Reference granted on 10th February, 2022 vide its F.No. IA-J-11015/27/2021-IA-II(M).
- (ix) Total mining lease area as per block allotment is 869.40 ha. But due to CBM overlap in MLA, 12.72 ha area has been reduced from the MLA by the MOC letter dated 23rd June, 2021, then the new mine lease area is 856.68 ha. Mining Plan (Including Progressive Mine Closure Plan) has been approved by the Ministry of Coal on 22.4.2022.
- (x) The land usage pattern of the project is as follows:

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

S. No.	Land Use	Within ML Area	Outside ML Area	Total
1	Agricultural Land	630.64	-	630.64
2	Forest Land	-	-	-
3	Wasteland	96.12	-	96.12
4	Grazing Land	25.84	-	25.84
5	Surface Water Bodies	70.09	-	70.09
6	Settlements	30.65	-	30.65
7	Others (Specify)		-	-
	Old Excavation Area (East Quarry)	-	-	-
	Old Excavation Area (West Quarry)	-	-	-
	Old OB Dumps	-	-	-
	Roads & Mine	3.34	-	3.34

	Infrastructure			
	R & R Colony	-	-	-
	Staff Colony	-	-	-
	Green Belt	-	-	-
	Balance Area	-	-	-
	Total Project Area =	856.68	-	856.68

Post Mining:

S. No.	Land use	Land Use (ha)				
		Plantation	Water Body	Public Use	Undisturbed	Total
1	External OB Dump	-	-	-	-	-
2	Top Soil Dump	-	-	-	-	-
3	Excavation/ rationalized	-	-	442.85	-	442.85
4	Roads	-	-	5.26	-	5.26
5	Built-up Area	-	-	18.88	-	18.88
6	Green Belt	8.49	-	-	-	8.49
7	Undisturbed/ Virgin Area	-	-	381.20	-	381.20
8	Safety Zone / Rationalization Area	-	-	-	-	-
9	Diversion / Below River / Nala /Canal	-	-	-	-	-
10	Water Body	-	-	-	-	-
11	Staff Colony	-	-	-	-	-
	Total Area =	8.49	-	848.19	-	856.68

- (xi) Total geological reserve reported in the mine lease area is 166.824 MT with 101.040 MT mineable reserve. Out of total mineable reserve of 101.040 MT, 50.023 MT are available for extraction. Percent of extraction is 29.99%.
- (xii) 10 seams with thickness ranging from 1.5 m – 6.5 m are workable. Grade of coal is G-4 to G-15 as per approved MP&MCP; stripping ratio NA, while gradient is 4° to 5°.
- (xiii) Method of mining operations envisages by underground method.
- (xiv) Life of mine is 66 years.
- (xv) Transportation of coal has been proposed by Conveyor belt in mine pit head, from surface to siding by Loader and Truck and at sidings by road.
- (xvi) No forest land has been reported to be involved in the project. Accordingly, Approval under the Forest (Conservation) Act, 1980 for diversion of forest land for non-forestry purposes has been obtained is not required.

- (xvii) There are no National Parks/Wildlife Sanctuaries/Biosphere Reserves within 10km of the proposed mine block. However, there are several water bodies and agricultural land present within the study area of the project
- (xviii) The ground water level has been reported to be varying between 1.6 m to 2.0 m during pre-monsoon and between 4.5 m to 5 m during post-monsoon. Total water requirement for the project is 615 KLD.
- (xix) No objection Certificate has been granted by State Water Investigation Directorate for Ground water having permit no. P2209008004920000001TSE dated 30.11.2021.
- (xx) Public hearing for the project of 0.8/1.2 MTPA (normative/peak) capacity in an area of 856.68 ha was conducted on 23-05-2022 at Laudoha Community Hall, Near Faridpur-Durgapur BDO Office, Paschim Bardhaman, W.B. under the Chairmanship of Additional District Magistrate, Asansol. Major issues raised in the public hearing include Employment, Better standard of living, land acquisition, etc. Appropriate action to address the issues raised in the Public Hearing have already been taken/proposed.
- (xxi) Date of approval of mine plan, mine closure plan, status & date: Final approval of MP&MCP vide no. CC/MP&MC/105/2021/Jaganathpur-B dated: 22.4.2022. Coal block is allotted vide vesting order no. NA-104/4/2019-NA dated 13.02.2020 by Nominate Authority, Ministry of Coal.
- (xxii) Tumni river/Nallah flowing is in the west to the proposed mine, however no diversion is proposed.
- (xxiii) Name of the EIA consultant who prepared the EIA/EMP report: M/s Greencindia Consulting Private Limited. QCI/NABET Certificate vide no. NABET/EIA/2023/SA 0155, valid upto 22nd Feb, 2023

33.1.3 The EAC during deliberations noted the following:

- Standard Terms of Reference (ToR) issued by Ministry on 2nd June, 2021 and further amendment in ToR granted on 10th February, 2022 regarding reduction of ML area.
- No forest land has been reported to be involved in the project. Accordingly, Approval under the Forest (Conservation) Act, 1980 for diversion of forest land for non-forestry purposes is not required. In this regard, no objection certificate regarding non-forest land issued by Divisional Forest Officer, Durgapur Division and Burdwan Division vide Memo No. 3359/28 dated 01/11/2, No. 2010/8 dated 24/08/21
- Total mining lease area as per block allotment is 869.40 ha. But due to CBM overlap in MLA, 12.72 ha area has been reduced from the MLA by the MOC letter dated 23rd June, 2021, then the new mine lease area is 856.68 ha. Mining Plan (Including Progressive Mine Closure Plan) has been approved by the Ministry of Coal on 22.4.2022.
- Public hearing on the project was conducted on 23rd May, 2022 at Laudoha Community Hall, Near Faridpur-Durgapur BDO Office in Paschim Bardhaman District, West Bengal under the Chairmanship of Additional District Magistrate, Asansol. A notification for the Environmental Clearance was issued by the West Bengal Pollution Control Board, Bidhannagar, which was published in Hindi, English and Bengali newspapers, including Sanmarg, Millennium post and Aaj kal newspaper respectively on dated 22nd April, 2022. Major issues raised in the public hearing includes; Employment, Better standard of living, land acquisition, etc, provide free

medical facilities, plan to employ land losers, which are appropriately addressed in EIA-EMP report.

- Coal block is allotted vide vesting order no. NA-104/4/2019-NA dated 13.02.2020 by Nominate Authority, Ministry of Coal and final approval of MP&MCP conveyed vide no. CC/MP&MC/105/2021/Jaganathpur-B dated: 22.4.2022.
- EAC while deliberating the proposal had sought certain information from PP, which are related to revised budgetary provision for environmental management plan, predicted air quality through modelling, Greenbelt development with detail of indicative species, water sprinkler systems for road and coal stock yard, approval of mine plan and mine closure, and details of water conservation measures as makeup water, wastewater generation and treatment. Further details on treatment systems linked to water distribution system. PP vide its Letter no. PTPL/JAG-B/EC-Delhi/03/22-23 dated 26.07.2022 has submitted the following:
 - Capital cost for Environment Management Plan has been revised and accordingly capital cost has now estimated to be Rs. 41.52 Cr and recurring cost to tune of Rs 9.26 Cr per year. In addition, capital cost for environmental monitoring has been worked out to be Rs. 3.0 Crore with its recurring cost Rs. 157.00 Lakhs/year
 - Revised air quality modelling considering the worst case scenario has been predicted with traffic impact assessment, based on vehicle capacity of 35-40 Ton per truck. Earlier study was done as per fleet size of 20 tons per trucks
 - Regarding clarification on Mine Plan, PP has submitted that Coal block is allotted vide vesting order no. NA-104/4/2019-NA dated 13.02.2020 by Nominate Authority, Ministry of Coal. Final approval of mine plan and mine closure plan was conveyed on 22.4.2022 vide no. CC/MP&MC/105/2021/Jaganathpur-B. PP in its submission has given detailed procedure of approval.
 - Total requirement of water (including all purposes) is estimated as 615 KLD. While as per the study, the peak mine seepage has been estimated as 4880 KLD. Initially water will be collected in the sumps and 1638 KLD water will be evaporated/losses. Excess water 1594 KLD from mine discharge after treatment in proposed water treatment plant will be used to meet the needs of affected villages, for agriculture and other purposes and 1078 KLD for ground water recharge. For meeting water demand for mining activity 570 KLD will be used.
 - The budgetary breakups for Water distribution system to be provided are as:

Sl. No.	Name of Villages	Tentative Length for Pipeline/ Drain (in km)	Cost Per KM (in Lac)	Total Cost in Lac
1.	Binodpur	2.48	25	61.9735
2.	Sashipur	2.23	25	55.5088
3.	Rajhat	2.13	25	53.0595
4.	Jot Balrampur	0.61	25	15.1648

- Also, two numbers of water harvesting ponds proposed to be developed with the dimensions (100 m, x 0 m x 3 m).
- Approximate capital cost of the proposed greenbelt is Rs. 30033375/- for plant density of 2500 plants per hectares
- PP has proposed to install ~191 water sprinklers for dedicated road from mining to Deul more and about 100sprinklers along the road near the villages in consultation with Gram Panchayat in coal transportation route.
- Base line data has been collected for ambient air, water (surface and groundwater), land, biotic community, etc. has been collected for Post Monsoon season (Oct 2020- Dec 2020). The incremental values have been projected to be $850 \mu\text{g}/\text{m}^3$ in core zone for PM10 against the standard value of $2000 \mu\text{g}/\text{m}^3$. The value of total GLC is $925.1 \mu\text{g}/\text{m}^3$ for PM10 which is in prescribed standard as per ACGIH for coal dust 8 hours average without EMP measures.
- Samples for water quality monitoring were collected from Benodpur, upstream & downstream of Ajay River, Srikrishanapur, Jatgaria, and Sunut. The result indicates that the maximum and minimum values of DO ranges between 5.40 to 5.00 mg/l, total hardness ranged between 281.30 To 183.40 mg/l, TDS ranged from 517.60 to 385.40 mg/l, toxic chemicals like As, Cd, Chromium as Cr^{+6} , Cu, CN, Pb, Mn, etc. were below detection level.

33.1.4 *The EAC, after deliberations noted that instant project is a greenfield underground coal mine project, wherein no forest land is involved and it was discussed with drone video survey and kml file of the area. Being underground mining, the committee was of view that the ground water extraction is more sensitive aspect than the ambient air quality. It was also observed from drone video that there are various ponds available in the project area, which needs to be protected. The Committee also expressed concerns on protection of Tumni nalla flowing in the west side and Ajay river flows adjacent to the boundary of the project. The extracted mine water during mining operations will be used for filling of existing pond; for water distribution in farming and; also for drinking water to the villagers. Indicator aquatic species shall be parameter in water bodies to see the environmental quality. Subsidence study has been conducted by CSIR-CIMFR. The committee noted that no mining has been proposed underneath the villages. PP has informed that only 24 ha of project area will be disturbed on surface for mining infrastructure, Coal Handling Plant, coal storage yard etc. PP has proposed to construct concrete road 3 km within the project area and 3.5 km outside till it is connected, from Deul more to shibpur and then to state Highway. It was desired, that Ukhra Railway siding or Durgapur Railway siding shall be used for coal transportation and in future coal transportation through road shall be completely stopped.*

Issues of public hearing was addressed and compliance with respect to allocation of fund was also noted by the committee and found to be adequate, however, it was desired that all the issues raised should be complied in a time bound manner. Further, points submitted by PP vide its email with revised details are in order. It was also noted that the air quality concentration in villages namely Banshia, Shirsha, Jaydev Kanduli, Jatgaria with controlled measures shows beyond $90\mu\text{g}/\text{m}^3$, which is reported to be sourced by nearby industries. Despite that Committee opined that it needs adequate mitigation

measures within mine at stockyard by through wind breaker, proper spinking, covered transportation etc. With regard to emissions from mines in the form of methane, it was submitted that percentage of methane is very less hence it cannot be recovered, however EAC desired that PP must explore innovative technology to recover methane.

In view of above, EAC recommended the proposal for grant of Environment Clearance to Jaganathpur-B Underground Coal Mine with a production capacity of 0.8 MTPA/1.20 MTPA (Normative/Peak) in mine area of 856.68 by M/s Powerplus Traders Private Limited (PTPL) located at Villages Sandipur, Basudevpur, Binodpur, Raj Hat, Sashipur, Dubrajpur, Majhidanga, Dandeswarpur, Ranipur, Shyamsunderpur, Jot Balarampur, Shrikrishnapur, Amdahi, Jagannathpur, Kalinagar, Tehsil Faridpur-Durgapur, District Paschim Bardhaman (West Bengal) under the provisions of EIA Notification, 2006 and its amendments therein with standard EC conditions and following additional specific conditions to be followed:

- (i) PP to obtain the CTO for 0.8/1.2 MTPA capacity after grant of EC.
- (ii) PP shall obtain No Objection Certificate from Central Ground Water Authority for extraction of ground water within six months and submitted to IRO –Ranchi.
- (iii) PP to complete the estimated allocated budgetary expenditure for EMP capital cost which is Rs. 41.52 Cr & Recurring cost is Rs. 9.26 per year as per its letter no. PTPL/JAG-B/EC-Delhi/03/22-23 dated 26.07.2022. Further capital cost for environmental monitoring is Rs. 300 Lakhs and recurring cost is Rs. 157.00 Lakhs/year Capital EMP budget shall be completed within strict timeline.
- (iv) PP shall develop 2 nos. of rain water harvesting pond (100 m, width will be 10 m and the depth will be 3 m) as proposed by PP near the villages of stated area in consultation with Gram Panchayat within 1 year. Also, Indicator aquatic species shall be planted in this water bodies to see the environmental quality. PP shall own water bodies/pond currently present in project area, maintain and regularly monitor the quality for its long term protection.
- (v) PP shall comply to implement Water distribution system in Binodpur, Sashipur, Rajhat, Jot Balrampu villages with an estimate Cost of Rs. 185.7065 Lakhs as in Letter no. PTPL/JAG-B/EC-Delhi/03/22-23 dated 26.07.2022. A proper water distribution network shall be devised to meet the demands of formers related to irrigation and recharging of ponds, wherever required.
- (vi) PP shall explore the use of Ukhra Railway siding or Durgapur Railway siding for coal transportation and in future coal transportation through road shall be completely stopped. A report in this regard be submitted to IRO within 1 year to justify the adequacy.
- (vii) PP shall install ~191 water sprinklers for dedicated road from mining to Deul more and 100 number along the transportation route as per Letter no. PTPL/JAG-B/EC-Delhi/03/22-23 dated 26.07.2022. In addition, 5 nos of fog cannons of atleast 40 mtrs throw shall be installed at coal storage yard and in nearby villages.
- (viii) PP shall transport the coal by trucks of fleet size 35-40 tons and no village road shall be used for transportation of coal.

- (ix) *PP shall maintain atleast 10 mtrs width tree plantation of broad leaves and wind break/green-shield of about 10 mts height along the boundary of coal storage yard.*
- (x) *PP to plant additional 100,000 plants with three tier plantation along the transportation route, if not completed, and identified areas with consent to the gram panchayat within two year and plant for remaining within 2 years for their proper growth in additional already committed to plant to plantation in 8.49 ha project area.*
- (xi) *PP shall follow the recommendation of subsidence study and monitor the degree of subsidence regularly and shall be submitted to IRO-Ranchi.*
- (xii) *PP to accomplish the recruitment of a full-fledged qualified manpower with Environmental Engineer/Environment Science degree background in Environment Management Cell etc within six months and same shall be reported to IRO, MoEF&CC*
- (xiii) *PP to fulfill all the commitment made to address the public hearing (Total amount of Rs. 473 lakhs to be completed within three years as in EIA) issued in time bound manner as committed in EIA EMP report and a progressive report to be furnished to IRO with every six monthly compliance report*
- (xiv) *PP shall implement Effluent Treatment Plant for wastewater generated from workshop and Sewage Treatment Plan (of MBR technology as proposed) for its colony. No untreated water shall be discharged from mine boundaries to ponds/nallah/river.*
- (xv) *PP to maintain the transportation road properly to minimize the dust emission. PP to also develop pucca/concrete 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.*
- (xvi) *PP to monitor the water quality of the ground water and surface water body located within the core zone and 5 km radius from the periphery of the mine boundary as per procedure laid down by CPCB.*
- (xvii) *PP to install 1 continuous ambient air quality monitoring stations at suitable locations preferably village side with consultation of SPCB. The real time data so generated shall be uploaded on company website and linked it with website of CPCB & SPCB. In addition, data should also be displayed digitally at entry and exit gate of mine lease area for public display.*
- (xviii) *PP must explore innovative technology to recover methane from gases extracted from underground mine while venting.*
- (xix) *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*
- (xx) *Proponent shall appoint an Occupational Health Specialist for Regular and Periodical medical examination of the workers engaged in the Project and maintain records accordingly; also, Occupational health check-ups for workers having some ailments like BP, diabetes, habitual smoking, etc. shall be undertaken once in six months and necessary remedial/preventive measures taken accordingly. The Recommendations of National Institute for ensuring good*

occupational environment for mine workers shall be implemented. The prevention measure for burns, malaria and provision of anti-snake venom including all other paramedical safeguards may be ensured before initiating the mining activities

- (xxi) Persons of nearby villages shall be given training on livelihood and skill development to make them employable with its proper records*
- (xxii) 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*
- (xxiii) 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.*
- (xxiv) PP should establish in house (at project site) environment laboratory for measurement of environment parameter with respect to air quality and water (surface and ground. A dedicated team to oversee environment management shall be setup which should comprise of Environment Engineers, Laboratory chemist and staff for monitoring of air, water quality parameters on routine basis. Any non- compliance or infringement should be reported to the concerned authority.*

Agenda No. 33.2

Kotre Basantpur Pachmo OCP Coal Mine Project with 5.0 MTPA production capacity in ML area of 1162.87 Ha by M/s Central Coalfields Limited located in West Bokaro Coal field at villages Pachmo, Basantpur, Tehsil Gumia, District Ramgarh & Bokaro (Jharkhand) - For Reconsideration in Environmental Clearance-reg.

[Online proposal IA/JH/CMIN/91000/2019; File No. IA-J-11011/18/2019-IA-II(I)]

32.2.1 The proposal is for Environmental clearance to Kotre Basantpur Pachmo OCP Coal Mine Project with 5.0 MTPA production capacity in ML area of 1162.87 Ha by M/s Central Coalfields Limited located in West Bokaro Coal field at villages Pachmo, Basantpur, Tehsil Gumia, District Ramgarh & Bokaro (Jharkhand).

30.2.3 The EAC during deliberation noted the following:

Earlier, the instant proposal was considered by EAC in its 28th meeting held on 1st April, 2022. Based on deliberations, EAC observed certain points for compliance. PP has now submitted the compliance of observation of EAC on parivesh portal and accordingly, proposal is accordingly reconsidered for appraisal.

Earlier the proposal of EC was considered by EAC in its 3rd meeting held on 27th October, 2020 and 10th EAC Coal Mining Sector Meeting dated 22.03.2021. The EAC after deliberations deferred the proposal for further information. PP has submitted the compliance of observation of EAC with respect to following points:

Sr. No.	Observations of EAC	Compliance / Submission of Project Proponent
1	PP shall update and revise mine plan & mine closure activity considering the sustainable way of mining and by restricting the diversions of streams.	<p>The mine plan has been relooked by CMPDI and it has been concluded that opencast mining is better proposal for this block keeping in view of the safety and conservation of precious coking coal.</p> <p>Since the coal blocks are to be operated through opencast mining, therefore the diversion of Nalla(s) are essential for safe working of the mine.</p>
2	PP shall submit Environment cost benefit analysis of this project (third party) based on loss of forest, biodiversity, diversion of river and accordingly review method of mining.	Environment Cost benefit analysis has been carried out by CMPDI
3	Emphasis to be given on protection measures for the 4 streams namely Kotre, Jhumra, Pachmo and Baghariya flowing across the lease area.	<ul style="list-style-type: none"> • All the 4 streams namely Kotre, Jhumra, Pachmo and Baghariya are flowing through the leasehold area of KBP OCP, are seasonal in nature. • KBP OCP is a coking coal block. It has been observed that 79% of the catchment area of the streams lies beyond the KBP leasehold area. As per the mining plan, streams are proposed to be diverted along the peripheral drain with sufficient protection bund against the mine working in order to maintain safety • Because of non-diversion of kotre stream, there will be difficulty in accommodating nearly 50 cum of overburden in external OB dump which may result in non-extraction of 10 Million tons of precious coking coal. • Jhumra stream is flowing across the KBP leasehold area, which is very essential to divert from operational as well as safety point of view in its third year of operation. the non-diversion of this stream may block nearly 30 MTPA of

		<p>precious coking coal and may endanger men and machine working at the mine.</p> <ul style="list-style-type: none"> • Pachmo and Baghraiya stream needs to be diverted after 15 years of mine operation to continue with safe operations of mining. • The detailed stream diversion plan has been discussed in the EIA/EMP. 																								
4	<p>As suggested by EAC, PP and consultant must adopt an integrated approach while handling the Overburden as the void of already existing nearby OCP, which can also be taken into consideration. PP must explore with scientific justification for OB handling as integrated approach with nearby Kedla OCP.</p>	<p>As per CMPDIL observation, options have been studied with respect to OB dumping in nearby mines in CCL command area i.e Jharkhand OCP, Kedla OCP, Parej OCP etc.</p> <table border="1"> <thead> <tr> <th>Project</th> <th>Present Capacity (MTY)</th> <th>Proposed Capacity (MTY)</th> <th>Volume of OB to be generated (MCuM)</th> <th>Proposed internal Dump (MCuM)</th> <th>External Dump (MCuM)</th> </tr> </thead> <tbody> <tr> <td>Jharkhand Laido OCP</td> <td>1.00</td> <td>1.00</td> <td>58.95</td> <td>58.95</td> <td>Nil</td> </tr> <tr> <td>Parej East</td> <td>1.75</td> <td>1.75</td> <td>94.99</td> <td>94.99</td> <td>Nil</td> </tr> <tr> <td>Kedla OCP</td> <td>1.00</td> <td>10.00</td> <td>PR under Preparation</td> <td>-</td> <td>-</td> </tr> </tbody> </table> <p>It is evident that all the nearby OCPs are operational, which have been planned with simultaneous internal dumping. Therefore, it is not possible to accommodate OB generated at KBP OCP in nearby mines and external dumping in 313.52 Ha. Of land has become essential.</p>	Project	Present Capacity (MTY)	Proposed Capacity (MTY)	Volume of OB to be generated (MCuM)	Proposed internal Dump (MCuM)	External Dump (MCuM)	Jharkhand Laido OCP	1.00	1.00	58.95	58.95	Nil	Parej East	1.75	1.75	94.99	94.99	Nil	Kedla OCP	1.00	10.00	PR under Preparation	-	-
Project	Present Capacity (MTY)	Proposed Capacity (MTY)	Volume of OB to be generated (MCuM)	Proposed internal Dump (MCuM)	External Dump (MCuM)																					
Jharkhand Laido OCP	1.00	1.00	58.95	58.95	Nil																					
Parej East	1.75	1.75	94.99	94.99	Nil																					
Kedla OCP	1.00	10.00	PR under Preparation	-	-																					
5	<p>PP shall provide the acknowledgement of Wildlife Conservation Plan and allocated fund for Schedule-I species</p>	<p>Draft Wild Life Conservation Plan is under preparation by M/s GEMS Projects Limited-Ranchi (accredited agency).</p>																								

	and breakup of the proposed activities with budgetary provision submitted to the DFO.	<p>The work order issued to the consultant has been enclosed</p> <p>The Wildlife Conservation plan would be submitted, once it is approved by Competent Authority.</p> <p>The budgetary provisions are in accordance with the directive of the Forest Advisory Committee, dated 07.06.2022, wherein 2% of the Total Project Cost shall be deposited as lump-sum in CAMPA towards the implementation of Wildlife Management Plan.</p>
6	PP shall submit Social Impact Assessment Study and draft R&R plan (to be submitted to District Commissioner)	<p>The Socio- Economic Study is being conducted at the leasehold area of the mine by M/s Asian Institute of Sustainable Development (Consultant).</p> <p>The Work Order issued in this regard is enclosed as Annexure 4. After completion of the study, the Draft R&R plan will be prepared as per provisions of CIL approved R&R policy and annuity scheme of CIL 2020 and will be submitted to D.C for approval.</p>
7	PP shall redo the monitoring of ambient air for carrying capacity in order to conduct the cumulative impact and propose the EMP measure in commensurate with State Action Plan for Severely Polluted area.	The cumulative impact assessment of study area has been carried out considering all the sources contributing the pollution load in the buffer zone (10km radius) of Kotre -Basantpur Pachmo OCP.
8	PP shall recheck and re-monitor the water quality of surface water in vicinity of the project area	Surface Water Monitoring at 7 locations covering all surface water bodies has been carried out by the TSC Lab, Ranchi (accorded agency) during the May month of 2022. Locations of Sample collection and Results have been enclosed
9	Time bound action plan with budgetary provision for commitment made on the issues raised during public hearing in both the districts.	Time bound action plan with budgetary provision of commitment made of the issues raised during public hearing has been enclosed
10	PP to submit the revised EMP cost and the break -up of activity proposed in CSR	Capital and Revenue Details of EMP Cost and tentative CSR have been enclosed as Annexure 7 . Social Impact Assessment Study is under process. The detailed CSR action plan will be prepared

		based on the outcomes of Social Impact Assessment study
11	The state action plan for mining should be taken into consideration while proposing EMP as the mine is located in severely polluted area	Jharkhand State Pollution Control Board was requested to furnish action plan pertaining to Hazaribagh- Bokaro vide letter ref no. GM(E&F)/CCL/2022/122 dated 23.02.2022 Copy enclosed
12	The socio –economic study to be conducted with actual survey report and a comparative assessment to be made from the census data of 2011-part B and also economic status of the study area and it should reflect how economically project will contribute to public. The study should also include the status of infrastructural facilities and amenities present in the study area and comparative assessment with census data of 2011 part A of EIA report and link it with the initialization and quantification of need based survey for CSR activities to be followed	All the points raised here are covered in the detailed “Socio Economic Study & Occupational Health Survey for Kotre Basantpur Pachmo OCP “Report and incorporated in the 3 rd Chapter of EIA EMP. CSR action plan has been covered under (Relevant Point). Detailed socio-economic study is being conducted by M/s Asian Institute of Sustainable Development, Ranchi (copy of work order enclosed as Annexure 4) and the agency has started the work and the study is in progress. The agency will prepare data with comparative assessment from the census data of 2011 part A and part B. The study will cover cost benefit analysis linking to proposed CSR activities.
13	A detailed of capital and recurring cost of the project with revision in EMP cost to be provided with proper budget management	Capital and Revenue Details of EMP Cost have been enclosed
14	A time bound action plan with its budgetary provision for green belt development with three tier plantation suggesting the name of species its survival rate, must be provided by PP	It has been proposed to develop green belt over an area of 151.40 Ha all along the project boundary. The tentative action plan along with budgetary provisions is provided
15	List of species of flora and fauna shall be vetted by DFO after conducting primary survey of buffer zone	DFO Ramgarh is conducting primary survey of species of flora and fauna in core and buffer zone and will submit the report soon. A copy of the letter issued by the DFO for primary survey is enclosed
16	A justification on carrying the open cast mining wrt carbon foot print and carbon sink of the existing forest area for next	Work order has been issued in this regard to Birla Institute of Technology- Mesra, Ranchi for carrying out study on carbon foot printg and carbon sink of existing forest area for next 10

	10 years must be provided by PP with its compensatory provision	years. The work –order issued to Consultant is enclosed
17	Form 2 shall be revised in respect of Land use (Forest Area) and PP must furnish the stage –I FC of 1006.17 ha forest land	Updated Form-II is enclosed as Annexure -12 Forest Diversion proposal of Kotre Basantpur Pachmo OCP has been forwarded by Jharkhand State Government to MoEF&CC on 03.06.2022. An EDS has been raised by the MoEF&CC and the compliance of which is under preparation
18	PP shall submit action plan for addressing issues raised during Public hearing with timeline and allocated fund in tabular form	Time bound action plan with budgetary provision for commitment made on the issues raised during public hearing has been enclosed
19	Revised EIA/ EMP report, Form- 2 & mining plan must be provided by PP as suggested by the EAC	Revised EIA/EMP report is enclosed

33.2.3 *The EAC, after deliberation noted that PP has submitted the ADS reply without giving proper justification in a manner and sprit on which EAC last time deferred the proposal. During course of discussion, it was emerged that PP have not explored the possibilities to protect the streams flowing within the mine; and submitted without opting hybrid mode of mining like opencast and underground. The only justification provided by the consultant is that the area has complex geography and they have to divert the rivers/streams without due approach of sustainable mining and assessment of likely impact in watershed of the area. In the environmental cost benefit analysis provided by the consultant, no features like streams diversion are not taken into consideration. So EAC desired PP to revise the analysis and yearly benefit of coal extraction v/s environmental loss. Further, PP was in denial mode to adopt the integrated approach for re-handling the OB dump by using the void of other mine. EAC suggested PP to revise the dumping strategy reducing the external dump area to protect the forest. The EAC after discussion had allowed the PP for the diversion of only Kotre stream as PP told that 30 million tonne of coal is available below it and no other nala diverted for next 15 years.*

The plantation proposed by the PP was also very less i.e. only distributing the sapling to the nearby villagers& developing green belt within the mine covering overdump etc has been proposed, rather PP opined that the compensatory afforestation is the part of the forest department and resting the responsibility to department. EAC mandatorily emphasised that PP must carry out plantation in nearby area wherever it is feasible in consultation with gram panchayat. It was advised to explore the plantation along the road sides used for transportation, along the river banks, fruit planation for villagers, etc and these should also be looked after by CCL for its perpetual maintenance.

Apart from the above, other major points were also not addressed properly in manner as was intended in deferred points of EAC. These are; hydrogeological study, wild life conservation plan & Social

Impact Assessment, which are stated to be under progress, but not finalised. So discussion was not carried forward for conclusion.

It was, finally, emerged that factors used for cost benefit analysis are lacking such as diversion of streams, land degradation, dust emission, reclamation, flora, fauna etc. It was advised that PP should engage experts other than CMPDI regarding assessment of revising mine plan and mine closure activity considering the sustainable approach in a view that no nallah/stream shall be diverted as per the direction of NGT, while granting the EC. The mine plan shall be vetted by reputed international expert/agency. EAC inferred that PP has submitted application in hurried manner with inadequate response. EAC cautioned project proponent and consultant, not to submit the immature proposals in future.

In view of all above, EAC desired that a sub-committee of EAC shall visit the proposed mine site. Prior to site visit, PP shall complete the above observation to conclude the matter at the time of visit.

*Accordingly, the proposal was **deferred** on above lines.*

Agenda No. 33.3

Jawahar Khani Opencast Mine [Amalgamation of JK-5 OC and 21Incline (Conversion to OC)] with a production capacity of 2.50 MTPA (Peak- 3.75 MTPA) in the project area of 1114.507 ha by M/s The Singareni Collieries Company Limited in Yellandu area, near Villages Sudimalla & Rompaid, Mandal Yellandu, District Bhadradi Kothagudem and Village Usirikayalapalle, Mandal Singareni, District Khammam (Telangana) - For Terms of References- reg.

[Online Proposal No. IA/TG/CMIN/278939/2022; File No. 23-257/2018-IA(III)]

33.3.1 The proposal is for Terms of Reference for Jawahar Khani Opencast Mine [Amalgamation of JK-5 OC and 21Incline (Conversion to OC)] with a production capacity of 2.50 MTPA (Peak- 3.75 MTPA) in the project area of 1114.507 ha by M/s The Singareni Collieries Company Limited in Yellandu area, near Villages Sudimalla & Rompaid, Mandal Yellandu, District Bhadradi Kothagudem and Village Usirikayalapalle, Mandal Singareni, District Khammam (Telangana).

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

- (i) The project area is covered under Survey of India Topo Sheet No. 65 C/6 and is bounded by the geographical coordinates ranging from Latitudes 17° 32' 44" to 17° 37' 10" & Longitudes E 80° 17' 38" to 80° 20' 27".
- (ii) Coal linkage of the mine is proposed as per Fuel Supply Agreement of the Company.
- (iii) Joint venture cartel has been formed - Not Applicable.
- (iv) Project does not fall in the Critically Polluted Area (CPA), where the MoEF&CC's vide its OM dated 13th January, 2010 has imposed moratorium on grant of environment clearance.

- (v) Employment generation to 657 (SCCL: 122, Indirect including outsourcing: 535) persons will be provided from the project.
- (vi) The project is reported to be beneficial in terms of socio-economic and improving living standards.
- **Social:** Infrastructure facilities like drinking water supply, sanitation, roads, culverts, community halls, street lighting, Education, Medical, Recreation, Business establishments etc., will be improved in the surrounding villages through CSR activities. Excess mine discharge water will be utilized for irrigation and ground water recharge.
 - **Financial:** Direct and indirect employment opportunities to local people in will be created through contract works such as coal transport, ancillary material supply like supporting material, spare parts, explosives, services, etc. Income will be generated to State and Central Govt. in the form of taxes.
 - **Environmental:** Parks will be developed in the area; Avenue plantation will be taken up in along the roads; Extensive plantations will be taken up in the area; Environmental awareness will be created in the area; Fruit bearing and other saplings will be distributed at free of cost to the schools and surrounding villages; De-silting of surrounding irrigation tanks and Construction of rain water harvesting pits in surrounding villages.
- (vii) Earlier, Environment clearance to the project was obtained under EIA notification:
- a. Environmental Clearance (EC) for JK 5 Expansion project was obtained for expansion of project from 2.50 MTPA to 3.50 MTPA under violation category vide EC Identification No.EC22A042TG126745 and F. No. 23-257/2018-IA (III), dated 09th June, 2022.
 - b. Environmental Clearance (EC) for 21 Incline was obtained for 0.65 MTPA vide Lr. No. J-11015 /930 / 2007-IA.II(M), dated 27th October, 2008.
- (viii) Total Project area is 1114.507 ha.
- a. 524.96 Ha covered in Yellandu Mining Lease (YML) for an area of 524.96 Ha granted for a period of 20 years vide G.O.MS. No. 5, dated 6th February, 2015 and valid up to 31st December, 2034.
 - b. 589.547 Ha covered in Yellandu Additional Mining Lease (YAML) for an area of 1741 Ha granted for a period of 20 years vide G.O.Ms. No. 278, dated 23rd October, 2007 and valid up to 14th April, 2024.
- (ix) Mining Plan (Including Mine Closure plan) (4th Modification) for Jawahar Khani Opencast (JK OC) Mine [Amalgamation of JK-5 Opencast and 21 Incline (Conversion to OC)] was approved by MoC, GOI vide Lr. No. 34011/1/2020-CPAM, dated 29.10.2020.

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

Pre-mining land use details (Area in ha):

Type	Land use	Within ML Area	Outside ML Area	Total
Tenancy	Agricultural	7.650	Nil	7.650
	Township	Nil	Nil	Nil
	Grazing	Nil	Nil	Nil
	Barren	12.330	Nil	12.330
	Water Bodies	Nil	Nil	Nil
	Road	Nil	Nil	Nil
	Community/Other	Nil	Nil	Nil
Govt Non-Forest	Agricultural	Nil	Nil	Nil
	SCCL Quarters	51.0763	Nil	51.0763
	Grazing	Nil	Nil	Nil
	Barren/Other Use	804.8560	Nil	804.8560
	Water Bodies	2.692	Nil	2.692
	Road & Railways	22.8950	Nil	22.8950
Forest	Reserve	213.0077	Nil	213.0077
	Protected	Nil	Nil	Nil
Free Hold		Nil	Nil	Nil
Total		1114.507		1114.507

During Mining Land Use Details (Area in ha):

Type	Land use (Proposed) (Ha)	Land Use (End of Life) (Ha)	Land Use (Post Closure) (Ha)						Total
			Agricultural Land	Plantation	Water Body	Public/Company Use	Forest Land (Returned)	Undisturbed	
Excavation Area	531.570								
Backfilled Area		368.435	61.958	277.7168			28.7602		368.435
Excavated Void		163.135			76.2951		86.8399		163.135
Top Soil Dump	11.910	11.910		11.910					11.910
External Dump	195.556	195.556		195.556					195.556
Safety Zone	158.726	158.726		119.6225		10.3773	28.7262		158.726
Diversions/below	1.928	1.928			1.577		0.351		1.928

River/Nalla/ canal									
Settling Pond	7.978	7.978			4.4462		3.5318		7.978
Road & Infrastructure area	80.327	80.327		69.571		10.756			80.327
Garland drains	13.266	13.266			11.0322		2.2338		13.266
Embankment	1.409	1.409					1.409		1.409
Undisturbed Area	111.837	111.837					61.1558	50.681 2	111.837
Total	1114.507	1114.507	61.958	674.3763	93.3505	21.1333	213.0077	50.681 2	1114.50 7

During Mining Land Use Details (Area in ha):

S.No	Type	Total area	Reclaimed area	Un-reclaimed are
1	Excavation/Quarry area			
	(a) Backfilled areas	368.435	368.435	-
	(b) Excavated void	163.135	-	163.135
2	Top soil dump	11.910	11.910	-
3	External dump	195.556	195.556	-
4	Safety zone	158.726	147.242	11.484
5	Diversion below river/nallah/canal	1.928	-	1.928
6	Settling Pond	7.978	-	7.978
7	Road and onfrastructure	80.327	69.5710	10.7560
8	Garland drains	13.266	-	13.266
9	Embankment	1.409	1.409	-
10	Undisturbed Area	111.837		111.837
Total		1114.507	794.123	320.384

(xi) Total geological reserve reported in the mine lease area is 99.12 MT with 74.68 MT minable coal reserve and Extractable reserves are 68.57 MT. Percent of extraction is 91.81 %. 41.65 MT is already extracted and balance extractable reserves are 26.92 MT (As on 31.03.2020).

- (xii) 2 seams present with thickness ranging from 0.90 to 3.10 m (Index Seam) and from 5.70 to 13.67 m thickness (Queen Seam). Grade of coal is G-13, stripping ratio 11.98, while gradient is 1 in 4.3 to 1 in 13.5.
- (xiii) Method of mining operations by OpenCast Mining method with Shovel- Dumper combination.
- (xiv) Life of mine is 14 years (From 01.04.2020).
- (xv) The project has one external OB dump with an area of 195.556 ha with 60 m height and 82.59 Mm³ of OB is envisaged in the project. Two internal dumps with an area of Pit-1-149.95 Ha & Pit-2-218.485 Ha with 120 m height and Pit-1-107.29 & Pit-2-225.19 Mm³ of OB is envisaged in the project.
- (xvi) Total quarry area is 531.570 ha, out of which backfilling will be done in 368.435 ha while final mine void will be created in an area of 163.135 ha with a depth of 190 m. Backfilled quarry area of 368.435 ha shall be reclaimed with plantation. Final mine void will be converted as Water body.
- (xvii) Transportation of coal has been proposed by coal from quarry to In-pit mobile crushers by dumpers and to wagon loading by belt conveyors and to the customers by Rail to end users.
- (xviii) Reclamation Plan in an area of 794.123 ha, comprising of 195.5560 ha of the external dump, 306.477 ha of internal dump, 221.11 ha of green belt and 70.98 in road & infrastructure and embankment.
- (xix) 213.0077 ha of forest land have been reported to be involved in the project. Approval under the Forest (Conservation) Act, 1980. The details of forest land diversions for surface rights are furnished below.
 - a. For Surface Rights - 151.8519 Ha. (Online application (Proposal No. FP/TG/MIN/49581/2020) was submitted to MoEF & CC on 18.09.2020 for surface rights 151.8519 Ha)
 - b. For Underground Rights - 61.1558 Ha (UG rights were already obtained)
 - i. vide F.No. 8-54/91-FC(PL), dated 25.07.2008 & valid up to 14.04.2024.
 - ii. vide F.No. 8-260/1985-FC, dated 20.07.2018 & valid up to 31.12.2034.
- (xx) No National Parks, Wildlife Sanctuaries and Eco-Sensitive Zones fall within 10 km boundary of the project.
- (xxi) A Wild life conservation plan for Schedule-I species (Four horned Antelope, Indian Monitor Lizard and Indian Pea Fowl) was prepared and approved by the Principal Chief Conservator of Forests and Chief Wildlife Warden for an amount of Rs.342.05 lakhs.
- (xxii) The ground water level has been reported to be varying between 2.35 to 10.25 m during pre-monsoon period and 0.55 to 6.86 m during post-monsoon period. Total water requirement for the project is about 1310 KLD.
- (xxiii) Application for obtaining the approval of the State Ground Water Authority for Ground Water Clearance will be submitted after getting EC.
- (xxiv) Consent to Operate:
 - CTO for JK 5 Expansion project was obtained from SPCB vide order No. 17072998391, dated 03-01-2018 and is valid up to 31.12.2022.
 - CTO for 21 Incline was obtained from SPCB vide order No. 17082998052, dated 03-01-2018 and is valid up to 31.12.2022.

- (xxv) Bugga Vagu, a seasonal nallah flowing within the project area (undisturbed) and is not proposed for diversion. Another seasonal nallah flowing adjacent to the project (near pit-2).
- (xxvi) Regular monitoring of ambient air quality: Monitoring is being carried out and will be continued in the proposed project.
- (xxvii) No court cases, violation cases are pending against the project of the PP.
- (xxviii) The project does not involve violation of the EIA Notification, 2006 and amendment issued there under.
- (xxix) The project involves does not involve R&R.
- (xxx) Total cost of the Project is Rs. 297.88 Crores. CSR cost is 2% of average net profits of the company made during last three years are being allocated for CSR at company level. Environment Management Cost is as follows: Direct cost: Rs. 18.33 Crores, Revenue cost: Rs.1.00 Crore per Annum (Rs. 5.30 /Ton).
- (xxxi) Past Production details comparison with existing EC:

Production Details of JK 5 Expansion Project (MT)

S. No	Year	As per EC	Actual Production	Excess production beyond the EC sanctioned capacity
1	2012-13	2.00	1.47	Nil
2	2013-14	2.00	2.00	Nil
3	2014-15	2.00	1.39	Nil
4	2015-16	2.50	2.51	0.01
5	2016-17	2.50	2.69	0.19
6	2017-18	2.50	2.96	0.46
7	2018-19	2.50	3.30	0.80
8	2019-20	2.50	3.35	0.85
9	2020-21	2.50	2.50	Nil
10	2021-22	2.50	2.49	Nil
11	2022-23 (Up to 30.06.2022)	3.50	0.21	Nil

Production Details of 21 Incline (MT)

Sl. No	Year	As per EC	Actual production	Excess production beyond the EC sanctioned capacity
1	2008-09	0.65	0.530	Nil
2	2009-10		0.374	Nil
3	2010-11		0.391	Nil
4	2011-12		0.390	Nil
5	2012-13		0.332	Nil
6	2013-14		0.316	Nil
7	2014-15		0.201	Nil
8	2015-16		0.203	Nil

9	2016-17		0.179	Nil
10	2017-18		0.640	Nil
11	2018-19		0.363	Nil
12	2019-20		Nil (Mine Closed)	
Total		7.80	3.92	

33.3.3 The EAC during deliberations noted the following:

- The proposal is for Terms of Reference by amalgamating two mines wherein PP is proposing to use mine void of JK-5 OC for dumping of overburden generated from conversion of underground coal mine to opencast coal mine.
- Earlier, Environment clearance to the project was obtained under EIA notification:
 - Environmental Clearance (EC) for JK 5 Expansion project was obtained for expansion of project from 2.50 MTPA to 3.50 MTPA under violation category vide EC F. No. 23-257/2018-IA (III), dated 09th June, 2022
 - Environmental Clearance (EC) for 21 Incline was obtained for 0.65 MTPA vide Lr. No. J-11015 /930 / 2007-IA. II (M), dated 27th October, 2008.
- The project involves diversion of 151.8519 ha of forest land for non-forestry activity. Approval under the Forest (Conservation) Act, 1980 for 151.8519 Ha. (Online application (Proposal No. FP/TG/MIN/49581/2020) was submitted to MoEF & CC on 18.09.2020 for surface rights 151.8519 Ha).

33.3.4 *The EAC, after deliberation found that 2 mines are proposed for merging and hence concept of amalgamation arises. Out of these two, one EC is under violation category, which has recently been granted by MoEF&CC under which MoEF&CC mandatorily conditions the PP to ensure the compliance of all the ECs conditions within the stipulate timeline i.e in 2 year. Further, mine closure activity and its status, in earlier approved EC for 21 incline coal mine has to be submitted. It was deliberated that M/s SCCL has adopted a similar process in other three coal mines also wherein underground coal mines was converted to opencast and large area of forest land involved for diversion. This practice is continuing without proper justification and without proper cost benefit analysis.*

However, in this project violation EC is involved, and its conditions specifies to implement the plan within 2 years. However, PP has applied in hurried manner without giving due importance to compliance of existing EC. Hence, on due thought after meeting, it has been inferred that PP to first comply EC condition of violation category and must explore for better and innovative technology to extract coal mines from underground itself; thereby saving the forest land. Though it is understood that mine void of nearby mines shall be used for dumping of OB dump but it cannot be in lieu of progressive mine closure activity, which was not earlier part of mine plan. Further EAC also opined that the closed conveyor belt system for transportation of the coal must be installed before the commencement of the amalgamated mine.

Upon considered opinion of EAC and further examination of documents, the Committee opined that it is imperative on the part of PP that compliance of violation EC conditions (EC dated 9th June, 2022) granted to JK-5 OCP shall be initiated & implemented, at least 50% of cost towards activities committed for Remediation Plan and Natural and Community Augmentation Plan, as the same was guaranteed by PP to be completed within 2 years.

Therefore, in view of above, the committee finally opined that PP shall first implement the violation category EC upto it Damage/Remedial cost of 50% (audited figures) and also explore all possible technology available in the world with cost benefit analysis before proposing opencast mine for amalgamated proposal in background of 151.8519 ha of forest land proposed for diversion. Techno-economic and environmental feasibility must be undertaken by PP for such proposal.

*The proposal of TOR is, therefore, **returned** for compliance to above points.*

Agenda No. 33.4

Expansion of Surkha (North) Lignite Mining for enhancement in production capacity from 3 to 5 Million TPA with 3 MTPA Pyrite Plant in mine lease area of 3672 Ha by M/s Gujarat Mineral Development Corporation Limited located in village Tagdi malpar, Holdad, Thordi, Rampur, Bhuteshwar, Ratnapur, Koliyak, Ghogha and Surkha, Taluka Ghogha, District Bhavnagar (Gujarat) - For Environmental Clearance – reg.

[Online Proposal No. IA/GJ/CMIN/274795/2006; File No. J-11015/234/2006-IA.II(M)]

33.4.1 The proposal is for Environment Clearance for Expansion of Surkha (North) Lignite Mining for enhancement in production capacity from 3 to 5 Million TPA with 3 MTPA Pyrite Plant in mine lease area of 3672 Ha by M/s Gujarat Mineral Development Corporation Limited located in village Tagdi malpar, Holdad, Thordi, Rampur, Bhuteshwar, Ratnapur, Koliyak, Ghogha and Surkha, Taluka Ghogha, District Bhavnagar (Gujarat).

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

- (i) The project area is covered under Survey of India Topo Sheet No. 46C/2, C/3, C/6 & C/7 and is bounded by the geographical coordinates ranging from latitudes 21⁰36'48.321 to 21⁰41'06.928 N and longitudes 73⁰ 10' 32.295" to 72⁰ 16' 31.275" E.
- (ii) Coal linkage of the project is proposed for:
Not Applicable being lignite produced is for merchant sale only to various industries within Gujarat.
- (iii) Project does not fall in the Critically Polluted Area (CPA), where the MoEF & CC's vide its OM dated 13th January, 2010 has imposed moratorium on grant of environment clearance.
- (iv) Employment generation @ 745 nos. (105 -departmental and outsourced -640).
- (v) The project is reported to be beneficial in terms of Social, Financial and Environmental

Awareness/ Improvement in nearby villages.

- (vi) Earlier, the environment clearance to the project was obtained under EIA Notification, 2006 vide Ministry's letter No. J-11015/234/2006-IA.II(M) dated 7th May 2007 for 3 Million TPA in mine lease area of 3672 ha.
- (vii) Standard Terms of Reference granted on vide letter no. IA-J-11015/234/2006-IA-II(M) dated 9th August, 2019.
- (viii) Total mining lease area as per block allotment is 3672 ha. Mining Plan (Including Progressive Mine Closure Plan) has been approved by MOC vide F. No. 48024/1/2000- Lignite/CA-I. dated 9th May, 2016 for the lignite production capacity of 5 Million TPA in existing 3672 ha area.
- (ix) The land usage pattern of the project is as follows:

Pre-mining land use details

(Area in Ha)

S. No.	Land Use	Within ML Area	Outside ML Area	Total
1	Agricultural Land	2941.6784	0.0	2941.6784
2	Forest Land	0.0	0.0	0.0
3	Wasteland	690.4194	0.0	690.4194
4	Grazing Land	39.9022	0.0	39.9022
5	Surface Water Bodies	0.0	0.0	0.0
6	Settlements	0.0	0.0	0.0
7	Others (Specify)	0.0	0.0	0.0

Post Mining

S. No.	Land use	Land use (ha)				
		Plantation	Water Body	Public Use	Undisturbed	Total
1	External OB Dump	19.65	0	261	0	280.65
2	Top Soil Dump	13.35	0	0	0	13.35
3	Excavation	768.88	136	110	0	1014.88
4	Roads	0	0	1.22	0	1.22
5	Built-up Area	0	0	4.65	0	4.65
6	Green Belt	60	0	0	0	60
7	Undisturbed Area	0	14	0	2015.38	2029.38
8	Safety Zone / Rationalization Area	239.87	0	0	0	0
9	Diversion / Below River / Nala / Canal	0	0	0	0	0
10	Water Body	0	28	0	0	28
11	Staff Colony	0	0	0	0	0

	Total Area =	1101.75	178	376.87	2015.38	3672
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- (x) Total geological reserve reported in the mine lease area is 114.72 Million Tonne (MT) with 76.787 Million Tonne (MT) as mineable reserve. Out of total mineable reserve of 76.787 MT, 73.51 MT are available for extraction. Percent of extraction is 95.73% w.r.t mineable reserve.
- (xi) 1 seams with thickness ranging from 0.15 m–13.72 m are workable. Grade of coal is G 13(P), stripping ratio 1:9.96 while gradient is 4° Degree NE.
- (xii) Method of mining operations envisages by Open cast method.
- (xiii) Life of mine is 16 years.
- (xiv) The project has 05 external OB dumps (including top soil) in an area of 294 ha with maximum height up to 55 m and 880.26 Mm³ of OB and 01 internal OB dump in an area of 878.88 ha with 768.1 Mm³ of OB is envisaged in the project.
- (xv) Total quarry area is 1014.88 ha out of which backfilling will be done in 878.88 ha while final mine void will be created in an area of 136 ha with a maximum depth of 15 m. Backfilled quarry area of 768.88 ha shall be reclaimed with plantation. Final mine void of 136 ha will be converted in water body.
- (xvi) Transportation of coal has been proposed by road through dumpers in mine pit head and pyrite plant, from surface to siding by dumpers and at sidings by trucks.
- (xvii) Reclamation Plan in an area of 1014.88 ha, comprising of 294 ha of external dump, 768.88 ha of internal dump and 60 ha of green belt. In addition to this, an area of 235.25 ha, included in the safety zone/rationalization area, has also been proposed for green belt development.
- (xviii) No forest land has been reported to be involved in the project under the Forest (Conservation) Act, 1980 for diversion for non-forestry purposes.
- (xix) No National Parks, Wildlife Sanctuaries and Eco-Sensitive Zones fall within 10 km boundary of the project area.
- (xx) The ground water level has been reported to be varying between 2.13 m to 28.96 m during pre-monsoon and between 1.66 m to 17.58 m during post-monsoon. Total water requirement for the project is 980 KLD.
- (xxi) NOC from the Central Ground Water Authority has been obtained on 27/10/2021 with validity up to 26/10/2023
- (xxii) Public hearing for the project of 5 Million TPA capacity in an area of 3672 ha was conducted on 11/03/2022 at GMDC Surkha (N) Lignite Mine near Administrative Office under the Chairmanship of Additional District Magistrate. Major issues raised in the public hearing has been included in the EIA. Appropriate action to address the issues raised in the Public Hearing have already been taken and in the process of compliance.
- (xxiii) Consent to Operate for the existing capacity was obtained from the State PCB on 04/07/2018 and is valid till 31/03/2023.
- (xxiv) 4 season nalla are flowing in boundary of lease. The nalla is proposed to 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 monthly basis. The documented report is submitted to GPCB and also to IRO of MoEF & CC along with half yearly EC compliance report. In general, the results of ambient air quality monitoring data were found within prescribed

limits.

- (xxvi) Name of the EIA consultant who prepared the EIA/EMP report-CSIR- Central Institute of Mining and Fuel Research (CIMFR) – Dhanbad. NABET Accredited
- (xxvii) No court cases, violation cases are pending against the project of the PP.
- (xxviii) The project does not involve violation of the EIA Notification, 2006 and amendment issued there under. The coal production from the mine was started from the year 2008-09 onwards. No excess production of coal from the sanctioned capacity has been realized since the commencement of mining operations.
- (xxix) Total cost of the project is Rs. 375 Crores. Cost of production is Rs. 2152.60 /- per tonne., CSR cost is Rs 57.50 crore, R&R cost. Not Applicable. Environment Management Cost is Rs 319.05 Lakhs; Capital 252.19 Lakhs & Recurring 66.86 Lakhs
- (xxx) Consent to operate (CTO) was obtained from the State Pollution Control Board on 04/07/2018 and is valid till 31/03/2023.
- (xxxi) Past Production details comparison with existing EC:- Given below:

Year	EC sanctioned capacity(TPA)	Actual production (TPA)	Excess production beyond the EC sanctioned capacity
2008-09	3000000	384169.530	NIL
2009-10	3000000	651398.920	
2010-11	3000000	867952.430	
2011-12	3000000	2103073.010	
2012-13	3000000	1923026.190	
2013-14	3000000	1064925.105	
2014-15	3000000	1202494.195	
2015-16	3000000	877052.800	
2016-17	3000000	527555.360	
2017-18	3000000	1277412.809	
2018-19	3000000	672670.785	
2019-20	3000000	554724.547	
2020-21	3000000	494171.546	
2021-22	3000000	1638745.695	

33.4.3 The EAC during deliberations noted the following:

- The instant proposal is for expansion of production capacity Surkha (North) Lignite Mining for enhancement in production capacity from 3 to 5 Million TPA with 3 MTPA Pyrite Plant in mine lease area of 3672 Ha by M/s Gujarat Mineral Development Corporation Limited located in village Tagdi malpar, Holdad, Thordi, Rampur, Bhuteshwar, Ratnapur, Koliyak, Ghogha and Surkha, Taluka Ghogha, District Bhavnagar (Gujarat).
- Earlier, the environment clearance to the project was granted vide Ministry's letter No. J-11015/234/2006-IA. II(M) dated 7th May 2007 for 3 Million TPA in mine lease area of 3672 ha.
- Standard Terms of Reference granted vide letter no. IA-J-11015/234/2006-IA-II(M) dated 9th

August, 2019.

- Total mining lease area as per block allotment is 3672 ha. Mining Plan (Including Progressive Mine Closure Plan) has been approved by MOC vide F. No. 48024/1/2000- Lignite/CA-I. dated 9th May, 2016 for the lignite production capacity of 5 Million TPA in existing 3672 ha area.
- Baseline air quality has been measured at 8 locations in the study area during winter season (21.12.2020 to 23.03.2021). The 24-hourly average samples of particulate matters (PM10 and PM2.5), SO₂ and NO_x were measured as per the National Ambient Air Quality Standards (NAAQS), 2009
- PP has prepared the report based on secondary data. It has been reported that there is no endangered or rare faunal species observed in the study area. There is no schedule I or endangered species recorded in the study area; while faunal elements commonly reported in the study area.
- Public hearing for the project of 5 Million TPA capacity in an area of 3672 ha was conducted on 11/03/2022 at M/s. Gujarat Mineral Development Corporation Ltd. Surkha (N) Lignite Mine Project, Near Administrative Office of GMDC' Vill: Tagdi, Post: Malpar, Ta. Ghogha, Dist: Bhavnagar (Gujarat)' under the Chairmanship of Additional District Magistrate. An advertisement in English was published in English in "Times of India" and in Gujarati in "Sandesh" dated 04.02.2022.
- Certified Compliance Report vide file no. 30/2012(ENV)/422 dated 02.0.2019 has been submitted by PP from IRO-Bhopal, which more than 3 years old.
- Pyrite production from instant mine is very less; however, there is a separate processing plant for separating pyrite from lignite (embedded in lignite).

33.4.4 The EAC, after deliberations observed that instant project is of expansion of lignite mine and project proponent is also extracting pyrite from lignite, which is embedded with lignite. Initially, Project Proponent could not bring clarity regarding pyrite production and its source in the mine. Later, it was informed that PP has taken separate EC for pyrite production and separate processing plant has been installed to extract pyrite from lignite. EAC desired that PP shall bring clarity regarding generation of pyrite and its quantity as separate EC has already been obtained by PP. The EC of pyrite and corresponding values vis-à-vis to certified production figures could not be submitted rather table was presented before EAC. Also, it was pointed that as per Ministry's OM dated 8th July, 2022, Certified Compliance Report (CCR) should not be older than one year, accordingly, the Committee opined that PP shall have to submit fresh CCR from Ministry's IRO. Further, it was observed that after submission of these details, the proposal shall be considered afresh since it was not deliberated fully. Also, PP need to submit the justification & need for diverting the streams based on the cost-benefit analysis. PP shall conduct a drone video survey for 10 minutes for clear view of the project. Also, issues raised during public hearing shall be addressed with reply based on fund allocated for issue and timeline for completing the issue.

*Due incomplete and inadequacy of proposal, the Committee **recommended** to return the proposal based on above lines.*

Agenda No. 33.5

Bhengari coal washery of 5.0 MTPA in an area of 17.48 ha of M/s Mahavir coal washery Private Limited located in village Bhengari, Tehsil Gharghora, District Raigarh (Chhattisgarh) – For Reconsideration Environment Clearance – reg.

[Online Proposal No. IA/CG/CMIN/27185/2015; File No J-11015/161/2015-IA.II(M)]

Earlier the proposal of EC was considered by EAC in its 3rd meeting held on 27th October, 2020 and 10th EAC Coal Mining Sector Meeting dated 22.03.2021. The EAC after deliberations deferred the proposal for further information. PP has submitted the compliance of observation of EAC with respect to following points:-

Sr. No.	Observations of EAC	Compliance / Submission of Project Proponent																																
1	As per the NGT's Committee recommendation, carrying capacity of the site area shall be carried out for suitability of the proposed project	<p>The proposed washery will be located on 43.18 acres land. The land use break-up is shown below:</p> <table border="1" data-bbox="727 871 1430 1455"> <thead> <tr> <th data-bbox="727 871 776 947">S. No</th> <th data-bbox="792 871 1133 905">Particulars</th> <th data-bbox="1149 871 1252 947">Area (In Acres)</th> <th data-bbox="1317 871 1430 947">(Percentage)</th> </tr> </thead> <tbody> <tr> <td data-bbox="727 957 760 991">1.</td> <td data-bbox="792 957 1133 991">Washery Plant</td> <td data-bbox="1149 957 1235 991">9.75</td> <td data-bbox="1317 957 1403 991">22.6</td> </tr> <tr> <td data-bbox="727 1001 760 1035">2.</td> <td data-bbox="792 1001 1133 1035">Raw Coal Stock yard</td> <td data-bbox="1149 1001 1235 1035">4.40</td> <td data-bbox="1317 1001 1403 1035">10.2</td> </tr> <tr> <td data-bbox="727 1045 760 1079">3.</td> <td data-bbox="792 1045 1133 1121">Clean Coal, Middling & Rejects</td> <td data-bbox="1149 1045 1235 1079">2.00</td> <td data-bbox="1317 1045 1403 1079">4.6</td> </tr> <tr> <td data-bbox="727 1131 760 1165">4.</td> <td data-bbox="792 1131 1133 1331">Other facilities Internal Roads, WTP, Maintenance Shed, Office, Stores, Staff Quarters</td> <td data-bbox="1149 1131 1235 1165">7.50</td> <td data-bbox="1317 1131 1403 1165">17.4</td> </tr> <tr> <td data-bbox="727 1341 760 1375">5.</td> <td data-bbox="792 1341 1133 1375">Plantation Area</td> <td data-bbox="1149 1341 1235 1375">14.25</td> <td data-bbox="1317 1341 1403 1375">33.0</td> </tr> <tr> <td data-bbox="727 1386 760 1419">6.</td> <td data-bbox="792 1386 1133 1419">Vacant Land</td> <td data-bbox="1149 1386 1235 1419">5.28</td> <td data-bbox="1317 1386 1403 1419">12.2</td> </tr> <tr> <td data-bbox="727 1430 760 1463"></td> <td data-bbox="792 1430 1133 1463">Total</td> <td data-bbox="1149 1430 1235 1463">43.18</td> <td data-bbox="1317 1430 1403 1463">100</td> </tr> </tbody> </table> <p data-bbox="703 1465 1450 1833">Chhal-Dharam coalfields and Gare Pelma coalfields of SECL are mostly inferior grade coal (E to G). The average ash in coal varies from 45 to 50%. The proposed coal washery is near to Chhal coal mines. The proposed washery will wash the coal (supplied by client). Clean coal with low ash content (30-34%) will be supplied to the client. The low ash content coal is required for steel plants and cement plants. The rejects will be used in the power plants located nearby.</p> <p data-bbox="703 1885 1450 1917">Mines and Industries in 10 km area of the proposed coal</p>	S. No	Particulars	Area (In Acres)	(Percentage)	1.	Washery Plant	9.75	22.6	2.	Raw Coal Stock yard	4.40	10.2	3.	Clean Coal, Middling & Rejects	2.00	4.6	4.	Other facilities Internal Roads, WTP, Maintenance Shed, Office, Stores, Staff Quarters	7.50	17.4	5.	Plantation Area	14.25	33.0	6.	Vacant Land	5.28	12.2		Total	43.18	100
S. No	Particulars	Area (In Acres)	(Percentage)																															
1.	Washery Plant	9.75	22.6																															
2.	Raw Coal Stock yard	4.40	10.2																															
3.	Clean Coal, Middling & Rejects	2.00	4.6																															
4.	Other facilities Internal Roads, WTP, Maintenance Shed, Office, Stores, Staff Quarters	7.50	17.4																															
5.	Plantation Area	14.25	33.0																															
6.	Vacant Land	5.28	12.2																															
	Total	43.18	100																															

washery

- i. 12 MW Power Plant of Mahavir Energy & Coal Beneficiation Ltd. < 0.2 km in SW.
- ii. 2x300 MW Power Plant of M/s TRN Energy Pvt. Ltd. about 1.0 km in ESE
- iii. 0.96 MTPA Coal Washery of Phil Coal Beneficiation Pvt. Ltd. 2.5 km in NE
- iv. Sponge Iron Plant of Rameshwaran Steel Pvt. Ltd. about 5.5 km in NE
- v. Chhal mines of SECL – 12.5 km, W
- vi. Jampali mine – 16.9 km, NNE
- vii. Baroud Mines – 17.4 km, NNE

Pollution from coal washery and its impact

- **Water pollution:** There will be no water pollution because the washed water will be treated and recycled. There is no cumulative impact
- **Solid wastes:** No solid waste is generated from coal washery. So, no cumulative impact

Air Pollution: The sources of air pollution in the study area are coal mines and power plants. Traffic movement on uncleaned road generates re-suspended road dust. PUC are issued by transport department to control air pollution due to exhaust from automobiles. There will be no additional impact due to traffic because production in coal mines is not increasing. Technically the raw coal being mined now will be washed in the proposed washery and then dispatched. The existing baseline air quality measurement at 8 locations has captured the impact of existing sources of pollution. The additional impact on the air environment due to the operation of washery is given below:

PREDICTED CUMULATIVE INCREMENTAL CONCENTRATION

Parameter	Without Pollution Control Measures ($\mu\text{g}/\text{m}^3$)	With Pollution Control Measures ($\mu\text{g}/\text{m}^3$)	Distance (km)	Direction
Particulate Matter	63.25	13.60	1.4	SW

(PM10)				
Particulate Matter (PM2.5)	15.8	5.45	1.4	SW

CUMULATIVE RESULTANT CONCENTRATION @ NEARBY HABITATION

Sr. No	Name of Village	Baseline Concentration ($\mu\text{g}/\text{m}^3$)#	Incremental Concentration Due to ($\mu\text{g}/\text{m}^3$)		Resultant Concentration ($\mu\text{g}/\text{m}^3$)	NAAQS ($\mu\text{g}/\text{m}^3$)
			2x300 MW TPP & 5 MTPA Washery	Road Transportation		
1	Bhengari	68.2	4.55	0.0005	72.75	100
2	Deormal	62.6	4.10	0.0002	67.35	100
3	Dongabana	61.6	4.10	0.0002	65.70	100
4	Danganinara	65.0	4.10	0.0005	69.10	100
5	Charmar	67.9	6.05	0.0002	73.95	100

CONTRIBUTION FROM 2X300 MW TPP

Parameter	Predicted Incremental GLCs due to 2x300 TPP ($\mu\text{g}/\text{m}^3$)		Distance (km)	Direction
	Without Control Measures	With Control Measures		
Sulphur dioxide (SO ₂)	14.8	2.96	2.2	SW
Oxides of Nitrogen (NO _x)	12.1	2.42	2.2	SW

2	PP shall submit Traffic impact assessment based on fresh data considering transportation activity of other companies.	The Traffic Impact Assessment based on fresh data considering transportation activity of other companies was submitted. The existing road network has adequate carrying capacity to accommodate the traffic. In addition to above, rail services from this area have started in 2021.
3	PP shall carry out feasibility study vis-à-vis with right of way w.r.t. Forest and technical justification for not using water from Kurket River	Irrigation Department, Chhattisgarh has denied to provide 1000 m ³ /day water to the proposed project due to non-availability.
4	PP shall explore the usage of wastewater from nearby power plants for washery operations	M/s Mahavir Energy & Coal Beneficiation Ltd having 12 MW Power Plant located at a distance of 0.2 km (SW) is agreed to provide the Surplus treated water of 344 KLD to M/s Coal Washery Private Limited. MOU w.r.t same is enclosed
5	Impact of washery on nearby agricultural land and flora-fauna. Proper flora management plan needs to be prepared.	Pollution from coal washery and its impact: <ul style="list-style-type: none"> • Water pollution: There will be no water pollution because the washed water will be treated in Thickener and Filter Press and then recycled for coal washing. Storm water will be collected and treated in a sedimentation pit before discharge in nearby nalla. There is no impact on the nearby agriculture fields. • Raw Materials, Products Solid wastes: ROM coal, clean coal and rejects will be stored inside the plant premises. No solid waste is generated from coal washery. So, there is no impact on the surrounding agriculture fields • Air Pollution: Coal dust will be generated during handling, crushing and screening of coal. Water sprinklers and mist spray will be provided to suppress the dust at generation point. Conveyors, rotary breaker, crusher and screens will be covered and provided with water sprinklers. Internal roads will be made pucca and cleaned daily using mechanical road sweeping machine. Industrial vacuum cleaners will be used daily to clean the work area. Dense greenbelt will be developed all around the washery premises. In this manner the

		impact on surrounding agriculture fields will be minimized.
6	Proper Air pollution mitigation measures at site with installation of Continuous Ambient Air Quality Station during operation of project.	<p>Air Pollution: Coal dust will be generated during handling, crushing and screening of coal. Water sprinklers and mist spray will be provided to suppress the dust at generation point. Conveyors, rotary breaker, crusher and screens will be covered and provided with water sprinklers. Internal roads will be made pucca and cleaned daily using mechanical road sweeping machine. Industrial vacuum cleaners will be used daily to clean the work area. Dense greenbelt will be developed all around the washery premises. In this manner the impact on surrounding agriculture fields will be minimized.</p> <p>One CAAQMS for PM₁₀ will be installed inside the premises (at the roof of Admin building)</p>
7	Adherence to the compliance to Issues raised during Public Consultation with the timeline and budgetary provision	The details regarding the issues raised during Public Consultation with the timeline and budgetary provision have been provided.
8	Fund allotment for greenbelt is too less and more fund should be allotted for developing peripheral plantation	<ul style="list-style-type: none"> • Greenbelt Area- 14.25 acres (5.76 ha) • No of Trees – 14423 (@2500 trees per ha) • Capital cost - Rs. 21.62 Lakhs • Cost per tree – 150/- per trees • Annual recurring cost - Rs. 5 Lakhs
9	PP shall submit the action plan with timeline for development of railway siding.	<p>There is a railway line passing by project site which is public corridor. Therefore, we cannot develop the railway siding at our project premises.</p> <p>Then we have searched for a Railway Goods Shade at Gharghora Railway station which is 10-12 km away from project site. Gharghora Railway Siding is already providing facilities to Adani & NTPC.</p> <p>In this connection we have approached and requested the Station Master (Railway Goods Siding), Gharghora to provide their Railway siding to M/s Mahavir Coal Washery Pvt Ltd for the transportation purpose.</p> <p>Request letter is enclosed</p>

- Further, EAC while deliberating the proposal during the meeting desired certain additional inputs. PP vide its letter dated 25.07.2022 through email has submitted the details. Inputs desired

were related to acknowledgment from DFO Office with respect to WL Conservation Plan, process of treatment of effluent in ETP, increase in budget for Green Belt Development Plan, undertaking stating that Railway siding will be implemented within 4 years, increase the budget for water supply as issue highlighted public hearing, MoU between Mahavir Coal Washery Private Limited and TRN Energy Private Limited for the using surplus treated water for washery operations.

- PP has revised Capital cost for greenbelt Rs. 64.90 Lakhs and its Annual Recurring Cost for greenbelt has now Rs. 15 Lakhs. PP has submitted the receiving copy of letter of submission of Report on Wildlife Conservation Plan for presence of schedule I species (all species) with fund allocated approved by PCCF vide letter dated 15.09.2020 to The PCCF, Naya Raipur. PP submitted the undertaking to implement the railway siding within 4 years from the date of EC for transportation of raw coal, washed coal and rejects vide its letter dated 25.07.2022. To address the issues raised during Public Hearing, PP has revised its budget to Rs. 203.5 lakhs to be completed within 3 years. MoU to source surplus wastewater of approx. 400 KLD from TRN Energy Private Ltd dated 21.06.2022 on e-stamp affidavit.
- The project lies in Tehsil Garghaora, District Raigarh wherein Original Application No. 104/2018 i.e. Shivpal Bhagat & Ors vs Union of India & Ors in Hon'ble NGT is being heard regarding remedial action against pollution caused by the Thermal Power Plants and Coal washeries in Tamnar and Gharghoda blocks of Raigarh District in Chhattisgarh. One of the observation and recommendation of committee states the following:

“ Till carrying capacity report comes, after taking due care to environment, authorities may grant mines, lease, consent permissions, EC etc. After receipt of the carrying capacity report, the same should also be taken as Governing factor.”

33.5.2 *The EAC, after detailed deliberations found that present proposal is greenfield wet type coal washery. It was also observed that PP had changed the consultant to M/s GRC India Pvt. Ltd. Further, the observation raised by EAC during the meeting has been submitted by PP and found adequate. The project lies in Ghardhoda Tehsil of Raigarh District wherein Hon'ble NGT has raised certain issues in the matter of OA No. 104/2018 (Shivpal Bhagat & Ors vs Union of India & Ors), however does not stops issuance of EC in the area.*

EAC while deliberating the submission of compliance of earlier observation observed that PP has signed an agreement/MoU with M/s TRN Energy to use its surplus wastewater and thereby no groundwater and surface/river water will be extracted for washery operations. EAC appreciated the PP for not using ground water and only withdrawal is for just drinking purpose. Further, regarding transportation of raw coal, washed coal and rejects, PP has submitted an undertaking to develop railway siding within 4 years of grant of EC. Also, one of the main issues highlighted by Hon'ble NGT in the above said order is regarding pollution due to transportation, on which PP has committed to develop railway siding and further PP requested for 4 years time since it would require clearance from Ministry of Railways, preparation of Detailed Project Report (DPR), land acquisition and construction/laying of railway line. EAC agreed with the submission of PP. EAC suggested PP to comply with all the recommendation of Carrying Capacity Study being conducted by reputed institute by CPCB & SPCB

EAC desired that since there are many mines in Raigarh District only, washery may opt to source raw coal from these mines instead of bringing coal from far distance and should be based on techno-economic feasibility for such sourcing. PP has submitted the copy of receiving of submission of Wildlife Conservation plan of schedule I species (including elephant) though there is no nearby (within 15 km) sanctuary/ESZ/elephant reserve. EAC desired that plantation proposed by PP shall be having majority of Sal trees and asked to develop Sal Nursery by seeking support from M/s SECL (Gevra coal mine).

*In view of above, EAC finally **recommended** the proposal for Bhengari coal washery of 5.0 MTPA in an area of 17.48 ha of M/s Mahavir coal washery Private Limited located in village Bhengari, Tehsil Gharghora, District Raigarh (Chhattisgarh), under the provisions of EIA Notification, 2006 and its amendments therein with following additional specific conditions to be followed:*

- (i) PP to obtain the CTO for 5 MTPA capacity after grant of EC.*
- (ii) PP to fulfill all the commitment made to address the public hearing issues in time bound manner as committed in EIA/EMP report and action taken report on non-compliances, which should be furnished to IRO within 3 months. As proposed, Rs. 203.5 lakhs is earmarked for PH activities, which shall be accomplished within period of 3 years.*
- (iii) As per NGT order dated 15.02. 2022 in Original Application No. 104/2018 in the matter of Shivpal Bhagat & Ors vs UIO, PP to comply with all the recommendation of Carrying Capacity Study being conducted by reputed institute by CPCB & SPCB.*
- (iv) As per NGT order dated 15.02. 2022 in Original Application No. 104/2018 in the matter of Shivpal Bhagat & Ors vs UIO, proper and free health care facilities with multispecialty treatment system shall be provided in coal mine buffer area.*
- (v) PP shall develop railway siding within 4 years for transportation of raw coal, washed coal and rejects within 4 years. Further, no transportation by road shall be allowed after 4 years from the date of issue of EC. Meanwhile, Transportation of raw coal, clean coal and middling, rejects shall be by rail/road (in 40-50 tonnes truck size only).*
- (vi) Thick green belt of 30-50 m width to be provided around the washery to mitigate/check the dust pollution. A 3-tier avenue plantation having 33% plantation of total area should also be developed along vacant areas, storage yards, loading/transfer points, and also along internal roads/main approach roads. A detailed action plan with budgetary provision should be submitted within 6 months to IRO. Areal images in this regard needs to be submitted in six monthly reports to IRO. PP shall spent Rs. 64.90 Lakhs and Annual Recurring Cost for greenbelt - Rs. 15 Lakhs for development of greenbelt*
- (vii) AS proposed by PP, no ground water and surface/river water shall be extracted for washery operation. PP shall use surplus wastewater from M/s TRN Energy Pvt Ltd as per MoU submitted. For domestic water usage, PP may use groundwater preferably if surface water not provided by Municipality.*
- (viii) The technology so chosen for ETP within washery should confirm to 'Zero Liquid Discharge'. No treated & untreated wastewater shall be discharged outside the boundaries of project area.*

- (ix) *PP to install 1 continuous ambient air quality monitoring stations at suitable locations preferably village side with consultation of SPCB before commission of washery operations. The real time data so generated shall be uploaded on company website and linked it with website of CPCB & SPCB. In addition, data should also be displayed digitally at entry and exit gate of mine lease area for public display.*
- (x) *Heavy metal content in raw coal, and washed coal shall be analyzed once in a year and records maintained thereof and it should be reported in IRO, report.*
- (xi) *PP to undertake the recruitment of a full-fledged qualified manpower with Environmental Engineer/Env. Science degree background in Environment Management Cell etc at coal washery plant for compliance of EC conditions.*
- (xii) *The ROM coal shall be washed to bring down the ash content to <34%, ensuring more than 7% reduction in ash should be taken care off as committed by PP.*
- (xiii) *PP shall develop 2 water harvesting pond in nearby villages of suitable area in consultation with Gram Panchayat within 1 year.*
- (xiv) *Fund allocated Wild life conservation plan for schedule I species shall be submitted within six months and a copy of receiving to be submitted to Ministry Regional office within three months.*
- (xv) *Solar street light to be installed with its proper maintenance along the road of incoming raw coal to avoid accident in nearby villages and a record must be furnished to IRO IRO with six monthly compliances*
- (xvi) *The fog cannon must be installed at periphery of the washery located near to the villages in order to suppress the dust.*
- (xvii) *Raw coal, washed coal and rejects shall be stored in covered silos or in dome shaped storage facility. Fixed type high pressure sprinkler shall be installed in this storage yards.*
- (xviii) *No village road shall be used for transportation of coal and no road transport route shall be adopted, which is passing through any sensitive location such as schools, hospitals etc. PP shall take legal undertaking from its consumers accordingly.*
- (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) *PP must also carry out plantation drive (fruit bearing trees, local species etc) with its proper maintenance in nearby villages by seeking consent of gram panchayat and villagers in coming monsoon and a proper record must be furnished to IRO with six monthly compliances*
- (xxi) *The PP must provide the workers proper PPE and must also trained them and a record of training must be furnished to IRO*
- (xxii) *Proponent shall appoint an Occupational Health Specialist for Regular and Periodical medical examination of the workers engaged in the Project and maintain records accordingly; also, Occupational health check-ups for workers having some ailments like BP, diabetes, habitual smoking, etc. shall be undertaken once in six months and necessary remedial/preventive measures taken accordingly.*

Agenda No. 33.6

Expansion of coal washery with change in technology from 0.96 MTPA (Dry Type) to 2.5 MTPA (wet type) in existing area of 10.6 Ha by M/s Phil Coal Beneficiation Pvt Ltd at village Tenda Newapara, Tehsil Ghardhoda, District Raigarh, (Chhattisgarh) - For Environmental Clearance – reg.

[Online Proposal No. IA/CG/CMIN/283252/2009; File No. J-11015/74/2021-IA-II(M)]

33.6.1 The proposal is for Environment Clearance for Expansion of coal washery with change in technology from 0.96 MTPA (Dry Type) to 2.5 MTPA (wet type) in existing area of 10.6 Ha by M/s Phil Coal Beneficiation Pvt Ltd at village Tenda Newapara, Tehsil Ghardhoda, District Raigarh, (Chhattisgarh).

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

- (i) The project area is covered under Survey of India Topo Sheet No. 64 J/4 and is bounded by the geographical coordinates ranging from 22°9'14.94"N to 22° 9'21.90"N and 83°15'26.25"E to 83°15'42.74"E
- (ii) Project does not fall in the Critically Polluted Area (CPA), where the MoEF&CC's vide its OM dated 13th January, 2010 has imposed moratorium on grant of environment clearance.
- (iii) Employment generation, 50 nos. direct & 150 no. indirect employment will be provided from the project.
- (iv) The project is reported to be beneficial in terms of the management commitment to uplift the standards of living of the villagers in consultation with local gram panchayat & a need based study will be carried out to assess the needs of locals.
- (v) Earlier, the environment clearance to the project was obtained under EIA Notification, 2006 & its amendment from SEIAA – CG vide letter no. 1092/SEIAA-CG/EC/Coal Wash/RGH/80/09 Raipur Dt. 7th August 2014 for 0.96 MTPA Dry type coal washery in an area of 10.06 Ha.
- (vi) Terms of Reference for the project was granted by Ministry on 1st November 2021.
- (vii) The land usage pattern of the project is as follows:
Industrial Land (Coal washery land Use)

S. No.	Land Use	Area (in Ha.)
1.	Main Plant Area (Existing & Expansion)	2.00
2.	Raw Coal Storage Yard (Existing & Expansion)	1.30
3.	Washed Coal Storage Yard (Existing & Expansion)	1.00
4.	Rejects storage	0.80

	(Existing & Expansion)	
5.	Water Storage and Rainwater Harvesting	0.35
6.	Internal Roads	0.40
7.	Green Belt	3.34
8.	Truck Parking area	0.40
9.	Other Misc. area	0.47
TOTAL		10.06

- (viii) The ROM coal from SECL mines mainly from Deepka, Gevra, Kusmunda and other SECL mines will be transported by Road. Washed coal and Washery rejects will be transported to parties through Road only. All the trucks used for transportation of will be tarpaulin covered. Pucca road exist upto the site. The existing road is capable of absorbing this additional truck movement.
- (ix) In addition to this, an area of ha, included in the safety zone/rationalization area, has also been proposed for green belt development – Greenbelt will be developed in an area of 3.34 Ha.
- (x) No forest land has been reported to be involved in the project for non-forestry purposes.
- (xi) No National Parks, Wildlife Sanctuaries and Eco-Sensitive Zones fall within 10 km boundary of the project.
- (xii) Wildlife conservation plan for schedule – I species has been prepared and submitted and movement of Elephants is observed within 10 Kms. radius of the plant, as per the secondary source. Conservation plan is prepared with Budget of Rs. 20.0 Lakhs.
- (xiii) The ground water level has been reported to be varying between 1.30 m bgl to 13.90 m bgl during pre- monsoon and between 0.87 m bgl to 10.13 m bgl during post-monsoon. Total water requirement for the project is 458 KLD.
- (xiv) Application for obtaining the approval of the Central Ground Water Authority for –
- Water required for existing plant is 33 KLD mainly for domestic purpose and greenbelt development and same is sourced form Ground Water source.
 - Water required after expansion will be 425 KLD, which consists of mainly for process and domestic purpose and will be sourced from Kurket river.
 - Total water requirement after proposed expansion will be 425KLD.
 - Application has been submitted for Water drawl permission to Water Resource Department, Govt. of Chhattisgarh. Approval is under process.
- (xv) Public hearing for the proposed project of change in technology cum expansion of existing 0.96 MTPA Dry type coal washery to 2.5 MTPA Wet type Heavy Media Cyclone type Coal Washery capacity in an area of 10.06 ha was conducted on 21st April 2022 at Premises on Higher Secondary School, Tenda Nawapara Village, Gharghoda Tehsil, Raigarh District, Chhattisgarh under the Chairmanship of Upper Collector. Major issues raised in the public hearing include employment, road development & maintenance, pollution problems, vehicular pollution, effect on wildlife, source of water, water pollution, ground water depletion, conservation of elephant, PH not conducted in 45 days. Appropriate action to address the issues raised in the Public Hearing have already been taken/proposed
- (xvi) Consent to Operate for the existing capacity was obtained from the Chhattisgarh Environment Conservation Board (CECB) vide no. 5467/TS/CECB/2021 Atal Nagar dt. 28.10.2021 and same is valid till 31st Oct. 2024.

- (xvii) No River/nalla is flowing through the plant site. Kurket River – 3.6 Kms. & Barkha Nallah – 1.7 Kms. are present within 10 Kms. radius of the plant site. are present within 10 Kms. radius of the plant site. No River / Stream passes through the proposed project site.
- (xviii) Regular monitoring of ambient air quality is being carried out on fortnightly basis. The documented report is submitted to CECB and also to MoEF&CC along with half yearly EC compliance report. In general, the results of ambient air quality monitoring data were found within prescribed limits.
- (xix) No court cases, violation cases are pending against the project.
- (xx) No R & R is required, as no habitation exists in the proposed plant site.
- (xxi) Total cost of the project is Rs. 20.0 Crores. Cost of production is Rs. 100 /- per tonne., CSR cost is Rs. 40 Lakhs, Environment Management Cost is Rs.160 Lakhs.

33.6.3 The EAC during deliberations noted the following:

- The proposal is for expansion in capacity from 0.96 to 2.5 MTPA and change in technology from dry type to wet type technology.
- Earlier, the environment clearance to the project was obtained under EIA Notification, 2006 & its amendment from SEIAA – CG vide letter no. 1092/SEIAA-CG/EC/Coal Wash/RGH/80/09 Raipur Dt. 7th August 2014 for 0.96 MTPA Dry type coal washery in an area of 10.06 Ha.
- Terms of Reference for the project was granted by Ministry on 1st November 2021
- Public hearing for the proposed project of change in technology cum expansion of existing 0.96 MTPA Dry type coal washery to 2.5 MTPA Wet type Heavy Media Cyclone type Coal Washery capacity in an area of 10.06 ha was conducted on 21st April 2022 at Premises on Higher Secondary School, Tenda Nawapara Village, Gharghoda Tehsil, Raigarh District, Chhattisgarh under the Chairmanship of Upper Collector. Major issues raised in the public hearing include employment, road development & maintenance, pollution problems, vehicular pollution, effect on wildlife, source of water, water pollution, ground water depletion, conservation of elephant, PH not conducted in 45 days. Appropriate action to address the issues raised in the Public Hearing have already been taken/proposed.
- Certified compliance report vide letter no. 18-D-353/2014(SEAC)/769 dated 9th June, 2022 was issued by Integrated Regional Office-Raipur.
- Wildlife conservation plan for schedule I species has been prepared and budget of Rs. 20 lakhs has been allocated and to be submitted to Forest Department.
- Baseline data for environmental parameters were collected during 15th October 2021 to 15th January 2022. Baseline data has been collected pertaining to Ambient Air, Noise, Water & Soil by an external laboratory M/s. Global Enviro Labs (GEL), Hyderabad
- The project lies in Tehsil Garghaora, District Raigarh wherein Original Application No. 104/2018 i.e. Shivpal Bhagat & Ors vs Union of India & Ors in Hon'ble NGT is being heard regarding remedial action against pollution caused by the Thermal Power Plants and Coal washeries in Tamnar and Gharghoda blocks of Raigarh District in Chhattisgarh. One of the observation and recommendation of committee states the following:

“Till carrying capacity report comes, after taking due care to environment, authorities may grant mines, lease, consent permissions, EC etc. After receipt of the carrying capacity report, the same should also be taken as Governing factor.”

- EAC during the mentioned desired certain additional information regarding the project on which, PP vide its letter dated 26th July, 2022 has submitted the details. PP submitted Action taken report to the observation raised in Certified Compliance Report, Revised EMP budget, Revised PH compliance, Cost Benefit Analysis, Vehicular Emission Control Measures (inside and outside the plant premises). In action taken report, PP has committed to comply most the conditions by October, 2022 to March, 2023. Revised EMP budget which includes Capital cost of Rs. 288 lakhs and Recurring cost Rs. 18 lakhs/annum. Further, budget allocation and action plan for addressing public hearing issues were submitted

33.6.4 The EAC, after deliberation found that expansion in production is with change in technology also i.e. from Dry type to wet type. EAC reiterated that the project lies in Ghardhoda Tehsil of Raigarh District wherein Hon'ble NGT has raised certain issues in the matter of OA No. 104/2018 (Shivpal Bhagat & Ors vs Union of India & Ors), however does not stops issuance of EC in the area.

EAC observed that some of the conditions of EC are yet to be complied, on which PP submitted the action plan for compliance. On enquiring about the mode of transportation of raw as well as washed coal it is through road transportation so EAC asked the PP to construct his own railway siding or have joint venture with other located nearby Coal washery. The PP committed to construct its own railway line in near future but was not able to give any timeline regarding it. The Committee mandatorily asked PP at least to have railway siding within 4-5 years. EAC also asked the PP to increase the fleet size up to 40 tonnes and to take adequate measures like plantation, sprinkling of water, wind barrier etc. for road transportation.

As per the certified compliance report, house-keeping is reported to be poor. EAC asked to improve it immediately and submit the photographs of area to IRO. It was seen that as per the Action taken report submitted by PP in respect of non-compliances of the CCR, mostly the compliances are to be met by December, 2022 including installation of CAAQMS. EAC agreed to the timeline submitted by PP and mandatorily asked PP should to comply all the conditions prior to the given timeline. It was further observed that PP has prepared Wildlife Conservation Plan for schedule I species and desired PP to submit the allocated fund to State Forest Department.

*In view of above, EAC finally **recommended** the proposal for Expansion of coal washery with change in technology from 0.96 MTPA (Dry Type) to 2.5 MTPA (wet type) in existing area of 10.6 Ha by M/s Phil Coal Beneficiation Pvt Ltd at village Tenda Newapara, Tehsil Ghardhoda, District Raigarh, (Chhattisgarh), under the provisions of EIA Notification, 2006 and its amendments therein with following additional specific conditions to be followed:*

- PP to obtain the CTO for 2.5 MTPA capacity after grant of EC.*
- PP to fulfill all the commitment made to address the public hearing issues in time bound manner as committed in EIA/EMP report. Revised EMP budget of 288 lakh to be*

- implemented in a time bound manner. As committed, non-compliance point of existing EC shall be fulfilled by December 2022 and action taken report in this regard should be furnished to IRO by December 2022 with photograph /proof.*
- (iii) As per NGT order dated 15.02. 2022 in Original Application No. 104/2018 in the matter of Shivpal Bhagat & Ors vs UIO, PP to comply with all the recommendation of Carrying Capacity Study as conducted by CPCB & SPCB.*
 - (iv) As per NGT order dated 15.02. 2022 in Original Application No. 104/2018 in the matter of Shivpal Bhagat & Ors vs UIO, proper and free health care facilities with multispecialty treatment system shall be provided in coal mine buffer area.*
 - (v) As committed to explore the railway transportation, PP shall develop railway siding within 4 years for transportation of raw coal, washed coal and rejects within 4 years. Further, no coal transportation by road shall be allowed after 4 years from the date of issue of EC. Meanwhile, Transportation of raw coal, clean coal and middling, rejects shall be by rail/road (in 40-50 tonnes dumpers only).*
 - (vi) Thick green belt of 50 m width to be provided around the washery to mitigate/check the dust pollution. A 3-tier avenue plantation having 33% plantation of total area should also be developed along vacant areas, storage yards, loading/transfer points, and also along internal roads/main approach roads. A detailed action plan with budgetary provision should be submitted within 6 months to IRO. Areal images in this regard needs to be submitted in six monthly reports to IRO.*
 - (vii) PP shall only use surface water i.e. from Kurket river after obtaining permission for washery operation and domestic purpose and no ground water shall be used for any purpose. Further, PP shall explore using domestic wastewater after secondary or tertiary treatment.*
 - (viii) The technology so chosen for ETP within washery should confirm to 'Zero Liquid Discharge'. No treated & untreated wastewater shall be discharged outside the boundaries of project area.*
 - (ix) PP to install 1 continuous ambient air quality monitoring stations by December 2022 at suitable locations preferably village side with consultation of SPCB before commission of washery operations. The real time data so generated shall be uploaded on company website and linked it with website of CPCB & SPCB. In addition, data should also be displayed digitally at entry and exit gate of mine lease area for public display.*
 - (x) Heavy metal content in raw coal, and washed coal shall be analyzed once in a year and records maintained thereof and it should be reported in IRO, report.*
 - (xi) PP to undertake the recruitment of a full-fledged qualified manpower with Environmental Engineer/Env. Science degree background in Environment Management Cell etc at coal washery plant for compliance of EC conditions.*
 - (xii) The ROM coal shall be washed to bring down the ash content to <34%, ensuring more than 7% reduction in ash should be taken care off as committed by PP.*
 - (xiii) PP shall develop 2 water harvesting pond in nearby villages of suitable area in consultation with Gram Panchayat within 1 year.*
 - (xiv) PP shall submit Wildlife conservation plan to State Forest Department within 1 month and also fund allocated Wild life conservation plan for schedule I species shall be*

submitted within six months and a copy of receiving to be submitted to Ministry Regional office within three months.

- (xv) *Solar street light to be installed with its proper maintenance along the road of incoming raw coal to avoid accident in nearby villages and a record must be furnished to IRO with six monthly compliances*
- (xvi) *PP shall install atleast 5 numbers of fog cannon must be installed at periphery of the washery located near to the villages in order to suppress the dust.*
- (xvii) *Raw coal, washed coal and rejects shall be stored in covered silos or in dome shaped storage facility. Fixed type high pressure sprinkler shall be installed in this storage yards.*
- (xviii) *No village road shall be used for transportation of coal and no road transport route shall be adopted, which is passing through any sensitive location such as schools, hospitals etc. PP shall take legal undertaking from its consumers accordingly.*
- (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) *PP must also carry out plantation drive (fruit bearing trees, local species etc) with its proper maintenance in nearby villages by seeking consent of gram panchayat and villagers in coming monsoon and a proper record must be furnished to IRO with six monthly compliances*
- (xxi) *The PP must provide the workers proper PPE and must also trained them and a record of training must be furnished to IRO*
- (xxii) *Proponent shall appoint an Occupational Health Specialist for Regular and Periodical medical examination of the workers engaged in the Project and maintain records accordingly; also, Occupational health check-ups for workers having some ailments like BP, diabetes, habitual smoking, etc. shall be undertaken once in six months and necessary remedial/preventive measures taken accordingly.*

Agenda No. 33.7

Cluster 8 (Group of 7 mines (1.53 MTPA normative to 2.75 MTPA peak in an ML area of 8281 ha) of M/s Eastern Coalfields Limited, located in Bagrasola, Baijantipur, Banali, Berala, Bhanora, Bonbishnupur, Chanda, Damodarpur, Jamuria, Jhiladanga, Joba, Kaithi, Kankhaya, Kendulia, Keshabganj, Khalrui, Mithapur, Mondalpur, Nandi, Ningha, District Burdwan (West Bengal) - For Amendment in Environmental Clearance – reg.

[Online proposal IA/WB/CMIN/244582/2021, File No. J-11015/107/2011-IAII(M)]

32.7.1 The proposal is for Environmental clearance to Cluster 8 (Group of 7 mines (1.53 MTPA normative to 2.75 MTPA peak in an ML area of 8281 ha) of M/s Eastern Coalfields Limited, located in Bagrasola, Baijantipur, Banali, Berala, Bhanora, Bonbishnupur, Chanda, Damodarpur, Jamuria, Jhiladanga, Joba, Kaithi, Kankhaya, Kendulia, Keshabganj, Khalrui, Mithapur, Mondalpur, Nandi, Ningha, District Burdwan (West Bengal).

30.7.2 The EAC during deliberation noted the following:-

Earlier, the instant proposal was considered by EAC in its 27thA meeting held on 3rd March, 2022. Based on deliberations, EAC has observed certain points for compliance. PP has now submitted the compliance of observation of EAC on parivesh portal and accordingly, proposal is being reconsidered for appraisal.

Following are the reply of PP:

Sr. No.	Observations of EAC	Compliance / Submission of Project Proponent
1	PP shall submit certified compliance of existing EC with the details of Mine closure activities. Drone survey of area shall be undertaken as proof of compliance.	The Certified Compliance Report has been issued by IRO, MoEF&CC, Kolkata CCR report vide letter no. 102-515/15/EPE/258 dated 16th June, 2022. Action Taken Report on Observations made on Certified Compliance Report was submitted by M/s ECL vide Ref. no. GM/SA/SECY-ENV/22-23/43 dated 27th June, 2022.
2	Adequate EMP measure shall be submitted to reduce the dust emission with budgetary provision all along the road transportation till railway siding.	Sprinkling on coal transport road: 2 to 5 nos. of mobile sprinklers per working mine for coal transport road. Total cost for sprinkling arrangement is proposed to be ₹ 50.00 Lakhs/annum. Fixed Sprinklers at Railway Siding: a) MS Railway Siding has been provided with 19 nos. of automatic fixed sprinklers and 2 nos. of Mist Guns with total expenditure of ₹ 60.45 Lakhs. b) Bhanora Railway Siding which is under construction will have 25 nos. of automatic fixed sprinklers and 3 nos. of Mist Guns with proposed budget of ₹ 100.00 Lakhs. Likely to be completed by 2023-24. Avenue Plantation: Present transport route belongs to PWD, WB and NHAI. ECL will provide state government/NHAI adequate funds for carrying out avenue plantation along the road from approved capital of ₹ 1695.00 Lakhs kept for green belting and plantation within the cluster.
3	Annual Production status of individual mines after the grant of EC.	Annual Production Status of individual mine since the grant of EC has been provided
4	PP must provide yearly progressive plan for handling the OB dump	The details of yearly progressive plan for handling of OB dump Bhanora OC Patch (Charanpur) Total mineable reserves within the proposed quarry patch has been estimated to be 1.83 MTe. Total quantity of overburden to be removed, works out to be 16.18 M.Cum with overall stripping ratio of 8.84 m ³ /TeAt the end of the

		<p>mine life, final mine void is proposed to be filled up to surface level by re-handling of OB from external OB dump.</p> <p>□ During mine closure the conserved soil will be spread out over the entire backfilled area of the quarry for growing of vegetation with regard to ecofriendly mining.</p> <p>Sripur Seam Incline (Ningah) OC Patch</p> <p>Total mineable reserves within the proposed quarry patch has been estimated to be 0.411 MTe. Total quantity of overburden to be removed, works out to be 1.22 M.Cum with overall stripping ratio of 2.96 m³ /Te.</p> <p>□ Out of 1.22 M.Cum OB, about 0.72 M.Cum shall be backfilled in the internal dump and balance 0.50 M.Cum will be accommodated in the external dump.</p>
5	PP must provide the copies of CTO of individual mines issued by state pollution control board.	All the Operating mines under Cluster no. 08 has valid CTO
6	PP shall provide proof of installation of 3 CAAQMS with picture and online data linked with CPCB and SPCB.	4 nos. of CAAQMS has been procured for installation in command area of ECL (Copy of Purchase Order given in Annexures of ADS reply). ECL is in the process of procuring 13 nos. of CAAQMS for the entire ECL command area out of which 3 nos. will be installed in Cluster No. 8.
7	PP must provide the copy of MoU signed for plantation and proof of tree plantation undertaken so far through remote sensing images.	MoU has been signed between Wbfdcl and ECL in the year 2019 for 1-year plantation and maintenance for four years. Satellite imagery of Land Reclamation Monitoring Report of Cluster no. 08 for the year 2021 is also given in Annexure- F2
8	PP to reanalysis the surface water quality of the rivers and streams flowing within the study area for drinking water standard.	Surface water was analysed at 5 different locations within the study area. Details of the stations are given below; 1. Upstream of Nunia Nallah from the point of entry into the cluster 2. Downstream of Nunia Nallah from the point of exit from the cluster 3. Nunia Nallah 100m before confluence with Damodar river 4. 100 m Upstream of point of confluence of Nunia Nallah with Damodar River 5. 100 m Downstream of point of confluence of Nunia Nallah with Damodar River All the parameters are within the limit as per Drinking water quality (IS 10500: 2012).
9	Compliance status to recommendation of land	Presently there are two operative UG mines in the Cluster: 1. Ningha UG 2. Satgram UG Regular monitoring of subsidence movement on the surface over and around the

subsidence study carried out for underground mines.	working area and impact on natural drainage pattern, water bodies, vegetation, structure, roads and surroundings is being done for the UG mines of the Cluster. Depillaring with stowing is being practiced in Satgram UG and there is no subsidence observed. In Ningah UG, the mine is under development phase. Depillaring will be carried out at later stage.
A copy of star rating shall be submitted as per the guidelines of Ministry of Coal.	There are two operating mines under Cluster no.08: 1. Ningha UG: rated one Star 2. Satgram UG : rated two star

Earlier, EC was granted by Ministry vide letter No. J – 11015/107/2011 – IA – II (M) dated 19.03.2015 for cluster 8 (ground of 7 mines) production capacity of (1.75 MTPA / 2.75 MTPA - Normative/Peak) in mine lease area of 8281 ha in District Burdwan, West Bengal.

The proposed changes/restructuring as proposed by project proponent:

Sl. No	Name of Mine	Leasehold Area (Ha)	EC Capacity (MT)	Life (Years)	Name of Mine	Leasehold area (Ha)	Proposed EC Capacity (MTY)	Revised Life (years)	Reason for Amendment	Change in UG capacity (MTY)	Change in OC capacity (MTY)
As per EC dated 19.03.2015					As per revised proposal						
1	Bhanora UG	1330	0.30	>20	Bhanora UG & OC	1330	0.60	>20	OC mining proposed for 5 years	-	(+) 0.30
2	Girmint/ KDI UG	1981	0.65	>50	Girmint/ KDI UG	1981	0.0	-	Production suspended	(-) 0.65	-
3	Sripur UG	2338	0.024	>20	Sripur UG	2338	0.0	-		(-) 0.024	-
4	Sripur Seam Incline UG	279	0.136	>25	Sripur Seam Incline UG & Sripur Seam Incline	279	1.04	>25	OC mining proposed for 2 years	(+) 0.704	(+) 0.20

					(Ningah) OC						
5	Ningah UG	1072	0.10	>50	Ningah UG	1072	0.36	>50	Introduc tion of mass producti on UG technolo gy	(+) 0.26	-
6	Mithapu r West UG & OC	527	0.34	>50	Mithapu r West UG & OC	527	0.0	-	Producti on Suspend ed	(-) 0.05	(-) 0.29
7	Satgram UG	754	1.20	>30	Satgram UG	754	0.75	>30	Reductio n in capacity	(-) 0.45	-
Total		8281	2.75			8281	2.75	0.0		(-) 0.21	(+) 0.21

33.7.4 The EAC, after deliberations observed that instant proposal of Cluster 8 involves conversion of underground mine to opencast particularly of Bhanora UG to OCP (for 5 years) and Sripur Seam Incline UG to OCP (for 2 years), change in technology at Ningah UG, reduction on production of Satgram UG and suspension of production from Girmint/KDI UG, Sripur UG and Mithapur West UG &UG as tabulated above. It was also observed the by doing instant changes/restructuring of individual coal mines, there is no change in overall capacity of an area of project.

Further, PP submitted that overall area to be disturbed is comparatively less than (about 126 ha -34 ha quarry area and ~45 ha) and 12 quarry area -18 ha of OB area) from overall mine lease area of 8281 ha and life of the cluster is hardly 6 years.

On enquiring about the mine closure status of KDI- UG, PP informed that it is suspended temporarily with proper fencing and boundary for 5 years. In this context, EAC desired an undertaking from PP that it will not be in operation for 5 years. PP also informed that Bhanora railway siding will be commenced from 2024 so the transportation issue will be resolved accordingly no transportation will be done by road.

EAC observed that planation along the roads and siding is not proper and ask the PP to submit the record of yearly planation in future. EAC desired to install wind barrier from coal yard towards the village side. Certified compliance report of IRO-Bhopal showed certain partial and non-compliance of EC conditions on which PP has submitted the action for compliance of those conditions.

In view of above, EAC recommended the proposal for grant of amendment in Environment Clearance to Cluster 8 (Group of 7 mines (1.53 MTPA normative to 2.75 MTPA peak in an ML area of 8281 ha) of M/s Eastern Coalfields Limited, located in Bagrasola, Baijantipur, Banali, Berala, Bhanora, Bonbishnupur, Chanda, Damodarpur, Jamuria, Jhiladanga, Joba, Kaithi, Kankhaya, Kendulia, Keshabganj, Khalrui, Mithapur, Mondalpur, Nandi, Ningha, District Burdwan (West Bengal), under the provisions of EIA Notification, 2006 and its amendments therein with standard EC conditions and following additional specific conditions to be followed:

- (i) PP shall comply all the non-compliance and partial compliance observed in CCR report vide letter no. 102-515/15/EPE/258 dated 16th June, 2022 within 3 months and submit the action taken report to IRO of MoEF&CC. .*
- (ii) PP to submit the tree implementation plan along the road side of transportation route including mine periphery area within 2 months from date of issue of EC to IRO, MoEF&CC. A detailed report with GIS images of every 3 months subsequently be submitted in every six monthly report to justify the adequate tree plantation.*
- (iii) PP shall engage third party independent expert agency for monitoring/auditing of compliance of EC conditions every year.*
- (iv) No village road shall be used for transportation of coal and no road transport route shall be adopted, which is passing through any sensitive location such as schools, hospitals etc. PP shall take legal undertaking from its consumers accordingly*
- (v) PP must obtain 4.5-starrating of MoC in the year 2024 and report shall be submitted to IRO. Yearly action taken plan shall be submitted to IRO , MoEF&CC within 3 months.*
- (vi) 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.*
- (vii) PP must plant 150,000 of native trees other than the green belt development proposed in the EIA /EMP report, also the broad leaves along the transportation route in three years to prevent the effect of air pollution. PP shall implement Peripheral tree plantation along the mine lease area with miyawaki method of 50 mts width within 2 years through independent expert. After completion of tree plantation, number of trees shall be duly endorsed from District Forest Officer*
- (viii) PP shall deploy only 40-50 tones covered trucks/dumper to reduce fleet size till railway siding is not operational.*
- (ix) PP shall deploy of atleast 10 nos of fog cannon for mitigation of fugitive dust on the haul road, coal storage yard and transportation route. Also 5 Movable long range fog cannon on the affected village must be immediately installed within 3 months*
- (x) 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*
- (xi) Yearly planation scheme and three tire green belt development scheme to be done by PP and a record of which must be submitted to IRO with satellite imagery showing the progressive change in land use with six monthly compliance report.*
- (xii) 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.

The meeting with vote of thanks

Annexure-I

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

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

(a) Statutory compliance

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

(b) Air quality monitoring and preservation

- (i) Continuous ambient air quality monitoring stations as prescribed in the statute be established in the core zone as well as in the buffer zone for monitoring of pollutants, namely PM₁₀, PM_{2.5}, SO₂ and NO_x. Location of the stations shall be decided based on the meteorological data, topographical features and environmentally and ecologically sensitive targets in consultation with the State Pollution Control Board. Online ambient air quality monitoring stations may also be installed in addition to the regular monitoring stations as per the requirement and/or in consultation with the SPCB. Monitoring of heavy metals such as Hg, As, Ni, Cd, Cr, etc to be carried out at least once in six months.
- (ii) The Ambient Air Quality monitoring in the core zone shall be carried out to ensure the Coal Industry Standards notified vide GSR 742 (E) dated 25th September, 2000 and as amended from time to time by the Central Pollution Control Board. Data on ambient air quality and heavy metals such as Hg, As, Ni, Cd, Cr and other monitoring data shall be regularly reported to the Ministry/Regional Office and to the CPCB/SPCB.
- (iii) Transportation of coal, to the extent permitted by road, shall be carried out by covered trucks/conveyors. Effective control measures such as regular water/mist sprinkling/rain gun etc shall be carried out in critical areas prone to air pollution (with higher values of PM₁₀/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 Climate Change/Regional Office.
- (v) Ground water, excluding mine water, shall not be used for mining operations. Rainwater harvesting shall be implemented for conservation and augmentation of ground water resources.
- (vi) Catch and/or garland drains and siltation ponds in adequate numbers and appropriate size shall be constructed around the mine working, coal heaps & OB dumps to prevent run off of water and flow of sediments directly into the river and water bodies. Further, dump material shall be properly consolidated/compacted and accumulation of water over dumps shall be avoided by providing adequate channels for flow of silt into the drains. The drains/ ponds so constructed shall be regularly de-silted particularly before onset of monsoon and maintained properly. Sump capacity should provide adequate retention period to allow proper settling of silt material. The water so collected in the sump shall be utilised for dust suppression and green belt development and other industrial use. Dimension of the retaining wall constructed, if any, at the toe of the OB dumps within the mine to check run-off and siltation should be based on the rainfall data. The plantation of native species to be made between toe of the dump and adjacent field/habitation/water bodies.
- (vii) Adequate groundwater recharge measures shall be taken up for augmentation of ground water. The project authorities shall meet water requirement of nearby village(s) after due treatment conforming to the specific requirement (standards).
- (viii) Industrial waste water generated from CHP, workshop and other waste water, shall be properly collected and treated so as to conform to the standards prescribed under the standards prescribed under Water Act 1974 and Environment (Protection) Act, 1986 and the Rules made there under, and as

amended from time to time. Adequate ETP /STP needs to be provided.

- (ix) The water pumped out from the mine, after siltation, shall be utilized for industrial purposive. watering the mine area, roads, green belt developmentetc. 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 surfacewater into the mine should be as per the approved Mining Plan and as per thepermission of DGMS or any other authority as prescribed by the law.
- (xi) The project proponent shall take all precautionary measures to ensure riverine/riparian ecosystem in and around the coal mine up to a distance of 5km. A riverine/riparian ecosystem conservation and management plan should be prepared and implemented in consultation with the irrigation / water resource department in the state government.

(d) Noise and Vibration monitoring and prevention

- (i) Adequate measures shall be taken for control of noise levels as per Noise Pollution Rules,2016 in the work environment. Workers engaged in blastingand 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 accessoriesto 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 prescribedby 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 onsix-monthly basis.

(e) Mining Plan

- (i) Mining shall be carried out under strict adherence to provisions of the MinesAct 1952 and subordinate legislations made there-under as applicable.
- (ii) Mining shall be carried out as per the approved mining plan(including Mine Closure Plan)abiding by mining laws related to coal mining and the relevant circulars issued by Directorate General Mines Safety (DGMS).
- (iii) No mining shall be carried out in forest land without obtaining Forestry

Clearance as per Forest (Conservation) Act, 1980.

- (ii) Efforts should be made to reduce energy and fuel consumption by conservation, efficiency improvements and use of renewable energy.

(f) Land reclamation

- (i) Digital Survey of entire lease hold area/core zone using Satellite Remote Sensing survey shall be carried out at least once in three years for monitoring land use pattern and report in 1:50,000 scale or as notified by Ministry of Environment, Forest and Climate Change(MOEFCC) from time to time shall be submitted to MOEFCC/Regional Office (RO).
- (ii) The final mine void depth should preferably be as per the approved Mine Closure Plan, and in case it exceeds 40 m, adequate engineering interventions shall be provided for sustenance of aquatic life therein. The remaining area shall be backfilled and covered with thick and alive top soil. Post-mining land shall be rendered usable for agricultural/forestry purposes and shall be diverted. Further action will be treated as specified in the guidelines for Preparation of Mine Closure Plan issued by the Ministry of Coal dated 27th August, 2009 and subsequent amendments.
- (iii) The entire excavated area, backfilling, external OB dumping (including top soil) and afforestation plan shall be in conformity with the “during mining”/“post mining” land-use pattern, which is an integral part of the approved Mining Plan and the EIA/EMP submitted to this Ministry. Progressive compliance status vis-a-vis the post mining land use pattern shall be submitted to the MOEFCC/RO.
- (iv) Fly ash shall be used for external dump of overburden, backfilling or stowing of mine as per provisions contained in clause (i) and (ii) of subparagraph (8) of fly ash notification issued vide SO 2804 (E) dated 3rd November, 2009 as amended from time to time. Efforts shall be made to utilize gypsum generated from Flue Gas Desulfurization (FGD), if any, along with fly ash for external dump of overburden, backfilling of mines. Compliance report shall be submitted to Regional Office of MoEF&CC, CPCB and SPCB.
- (v) Further, it may be ensured that as per the time schedule specified in mine closure plan it should remain live till the point of utilization. The top soil 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 runoff. 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.I1 (M) dated 29th October, 2014, titled 'Impact of mining activities on habitations-issues related to the mining projects wherein habitations and villages are the part of mine lease areas or habitations and villages are surrounded by the mine lease area'.
- (vii) The project proponent shall submit the environmental statement for each financial year in Form-V to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently and put on the website of the company.
- (viii) The project authorities shall inform to the Regional Office of the MOEFCC regarding commencement of mining operations.
- (ix) The project authorities must strictly adhere to the stipulations made by the State Pollution Control Board and the State Government.
- (x) The project proponent shall abide by all the commitments and recommendations made in the EIA/EMP report, commitment made during Public Hearing and also that during their presentation to the Expert Appraisal Committee.
- (xi) No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment, Forests and Climate Change.
- (xii) Concealing factual data or submission of false/fabricated data may result in revocation of this environmental clearance and attract action under the provisions of Environment (Protection) Act, 1986.
- (xiii) The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.
- (xiv) The Ministry reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner shall implement these conditions.
- (xv) The Regional Office of this Ministry shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data / information/monitoring reports.
- (xvi) The above conditions shall be enforced, inter-alia under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, Hazardous and Other Wastes (Management and Trans-boundary Movement) Rules, 2016 and the Public Liability Insurance Act, 1991 along with their amendments and Rules and any other orders passed by the Hon'ble Supreme Court of India / High Courts and any other Court of Law relating to the subject matter.

Annexure-II

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

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

I. Statutory compliance:

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

II. Air quality monitoring and preservation

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

station/stations may also be installed in addition to the regular air monitoring stations as per the requirement and/or in consultation with the

SPCB

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

III. Water quality monitoring and preservation

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

Change shall also be referred in this regard for its compliance.

- iii. Regular monitoring of ground water level and quality shall be carried out in and around the mine lease area by establishing a network of existing wells and constructing new piezometers during the mining operations. The monitoring of ground water levels shall be carried out four times a year i.e. pre-monsoon, monsoon, post-monsoon and winter. The ground water quality shall be monitored once a year, and the data thus collected shall be sent regularly to MOEFCC/RO.
- iv. Monitoring of water quality upstream and downstream of water bodies shall be carried out once in six months and record of monitoring data shall be maintained and submitted to the Ministry of Environment, Forest and Climate Change/Regional Office.
- v. Ground water, excluding mine water, shall not be used for mining operations. Rainwater harvesting shall be implemented for conservation and augmentation of ground water resources.
- vi. The project proponent shall not alter major water channels around the site. Appropriate embankment shall be provided along the side of the river/nallah flowing near or adjacent to the mine. The embankment constructed along the river/nallah boundary shall be of suitable dimensions and critical patches shall be strengthened by stone pitching on the river front side, stabilized with plantation so as to withstand the peak water pressure preventing any chance of mine inundation.
- vii. Garland drains (of suitable size, gradient and length) around the critical areas i.e. mine shaft and low lying areas, shall be designed keeping at least 50% safety margin over and above the peak sudden rainfall and maximum discharge in the area adjoining the mine sites. The sump capacity shall also provide adequate retention period to allow proper settling of silt material of the surface runoff
- viii. The water pumped out from the mine, after siltation, shall be utilized for industrial purpose. 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 greenbelt comprising of a mix of native species shall be developed all along the major approach roads/ coal transportation roads.

VIII. Public hearing and Human health issues

- i. Adequate illumination shall be ensured in all mine locations (as per DGMS standards) and monitored.
- ii. The Project Proponent shall undertake Occupational Health survey for initial and Periodical medical examination of the workers engaged in the Project and maintain records accordingly as per the provisions of the Mines Rules, 1955 and DGMS Circulars. Besides carrying out regular periodic health check-up of their workers, 20% of the workers engaged in active mining operations shall be subjected to health check-up for occupational diseases and hearing impairment, if any.
- iii. Personnel (including outsourcing employees) working in dusty areas shall wear protective respiratory devices and shall also be provided with adequate training and information on safety and health aspects.
- iv. Skill training as per safety norms specified by DGMS shall be provided to all workmen including the outsourcing employees to ensure high safety standards in mines.
- v. Effective arrangement shall be made to provide and maintain at suitable points conveniently situated, a sufficient supply of drinking water for all the persons employed.
- vi. Implementation of Action Plan on the issues raised during the Public 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. (incase of the presence of schedule-I species in the study area)
- (iv) The project proponent shall obtain Consent to Establish / Operate under the provisions of Air (Prevention & Control of Pollution) Act, 1981 and the Water (Prevention & Control of Pollution) Act, 1974 from the concerned State pollution Control Board/ Committee.
- (v) The project proponent shall obtain the necessary permission from the Central Ground Water Authority.
- (vi) Solid waste/hazardous waste generated in the washery needs to addressed in accordance to the Solid Waste Management Rules, 2016 / Hazardous & Other Waste Management Rules,2016.
- (vii) Coal beneficiation practices shall be carried out under strict adherence to provisions of the Factories Act, 1957 and subordinate legislations made there under.

II. Air quality monitoring and preservation

- i. Adequate ambient air quality monitoring stations shall be established in the core zone as well as in the buffer zone for monitoring of pollutants, namely particulates, SO₂ and 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 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 be appropriately planned and designed to avoid air and water pollution from such sites.

III. Water quality monitoring and preservation

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

time to time by the Central Pollution Control Board.

- ii. The monitoring data shall be uploaded on the company's website and displayed at the project site at a suitable location. The circular No. J-20012/1/2006-1A.11 (M) dated 27.05.2009 issued by Ministry of Environment, Forest and Climate Change shall also be referred in this regard for compliance.
- iii. Industrial waste water shall be properly collected and treated so as to conform to the standards prescribed under the Environment (Protection) Act, 1986 and the Rules made there under, and as amended from time to time.
- iv. The project proponent shall not alter major water channels around the site. Appropriate embankment shall be provided along the side of the river/nallah flowing near or adjacent to the washery. The embankment constructed along the river/nallah boundary shall be of suitable dimensions and critical patches shall be strengthened by stone pitching on the river front side stabilised with plantation so as to withstand the peak water pressure preventing any chance of inundation.
- v. Heavy metal content in raw coal and washed coal shall be analysed once in a year and records maintained thereof.
- vi. The rejects should preferably be utilized in FBC power plant or disposed off through sale for its gainful utilization. If the coal washery rejects are to be disposed off, it should be done in a safe and sustainable manner with adequate compaction and post closure arrangement to avoid water pollution due to leachate from rejects and surface run 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 Climate Change/Regional Office.
- xiii. The project proponent shall take all precautionary measures to ensure riverine/riparian ecosystem in and around the coal mine up to a distance of 5 km. A riverine/riparian ecosystem conservation and management plan should be prepared and implemented in consultation with the irrigation / water resource department in the state government

IV. Noise and Vibration monitoring and prevention

- i. The noise level survey shall be carried out as per the prescribed guidelines to assess noise exposure of the workmen at vulnerable points in the mine premises, and report in this regard shall be submitted to the Ministry/RO on six-monthly basis
- ii. Adequate measures shall be taken for control of noise levels as per noise pollution Rules, 2016 in the work environment. Workers engaged in blasting and drilling operations, operation of HEMM, etc shall be provided with personal protective equipments (PPE) like ear plugs/muffs in conformity with the prescribed norms and guidelines in this regard. Adequate awareness programme for users to be conducted. Progress in usage of such accessories to be monitored.

V. Coal beneficiation

- i. Coal stacking plan shall be prepared separately for raw coal, clean coal, middling and rejects.
- ii. Efforts should be made to reduce energy consumption by conservation, efficiency improvements and use of renewable energy.

VI. Green Belt

- i. Three tier greenbelt comprising of a mix of native species, of minimum 30 m width shall be developed all along the washery area to check fugitive dust emissions and to render aesthetic to neighbouring stakeholders. A 3-tier green belt comprising of a mix of native species or tree species with thick leaves shall be developed along vacant areas, storage yards, loading/transfer points and also along internal roads/main approach roads.
- ii. The project proponent shall make necessary alternative arrangements, if grazing land is involved in core zone, in consultation with the State government to provide alternate areas for livestock grazing, if any. In this context, the project proponent shall implement the directions of Hon'ble Supreme Court with regard to acquiring grazing land.

VII. Public hearing and Human health issues

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

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

VIII. Corporate Environment Responsibility

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

action plan shall be reported to the Ministry/Regional Office along with the Six Monthly Compliance Report.

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

IX. Miscellaneous

- i. The project proponent shall make public the environmental clearance granted for their project along with the environmental conditions and safeguards at their cost by prominently advertising it at least in two local newspapers of the District or State, of which one shall be in the vernacular language within seven days and in addition this shall also be displayed in the project proponent's website permanently.
- ii. The copies of the environmental clearance shall be submitted by the project proponents to the Heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt.
- iii. The project proponent shall upload the status of compliance of the stipulated 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 submit the environmental statement for each financial year in form-V to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently and put on the website of the company.
- vii. The project authorities shall inform to the Regional Office of the MOEFCC regarding commencement of mining operations.
- viii. The project authorities must strictly adhere to the stipulations made by the State Pollution Control Board and the State Government.
- ix. The project proponent shall abide by all the commitments and recommendations made in the EIA/EMP report, commitment made during Public Hearing and also that during their presentation to the Expert Appraisal Committee.
- x. No change in coal beneficiation process and scope of work shall be made without obtaining prior approval of the Ministry of Environment, Forests and Climate Change (MoEFCC) with such conditions mentioned therein. No change in

- the maximum quantum of raw material feed per annum against the approved washery capacity shall be made
- xii. Concealing factual data or submission of false/fabricated data may result in revocation of this environmental clearance and attract action under the provisions of Environment (Protection) Act, 1986.
 - xiii. The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.
 - xiv. The Ministry reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner shall implement these conditions.
 - xv. The Regional Office of this Ministry shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data / information/monitoring reports.
 - xvi. The above conditions shall be enforced, inter-alia under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 and the Public Liability Insurance Act, 1991 along with their amendments and Rules and any other orders passed by the Hon'ble Supreme Court of India / High Courts and any other Court of Law relating to the subject matter.
 - xvii. Any appeal against this EC shall lie with the National Green Tribunal, if preferred, within period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.

ANNEXURE-IV

Generic ToR for coal washery

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

may be justified besides obtaining approval of the
Competent Authority for its drawl.

- xi. The entire sequence of mineral production, transportation, handling, transfer and storage of mineral and waste, if any, and their impacts on air quality should be shown in a flow chart with specific points where fugitive emissions can arise and specific pollution control/mitigative measures proposed to be put in place. The washed coal and rejects should be transported by train as far as possible. Road transport of washed coal and rejects should generally be avoided. In case, the TPP is within 10km radius, it should be through conveyor belt. If transport by rail is not feasible because of the topography of the area, the option for transport by road should 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

(xxxix) Conceptual Final Mine Closure Plan and post mining land use and restoration of land/habitat to the pre- mining status should be provided. A Plan for the ecological restoration of the mined out area and post mining landuse 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					

- (xxxix) 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.
- (xxxix) 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.
- (xxxix) Risk Assessment and Disaster Preparedness and Management Plan should be provided.
- (xxxix) Integration of the Env. Management Plan with measures for minimizing use of natural resources - water, land, energy, etc. should be carried out.
- (xxxix) Cost of EMP (capital and recurring) should be included in the project cost and for progressive and final mine closure plan.
- (xxxix) 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 AND (ha)	Date of FC	Extent of forestland	Balance area for which FC is yet to be obtained	Status of appl for diversion of forest land

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

GENERIC TORs FOR AN UNDERGROUND COALMINEPROJECT

- (i) An EIA-EMP Report shall be prepared for MTPA rated capacity in an ML/project area of 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. Impactsof 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 faunaduly 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 ahabitat 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.
- (xxxii) Status of any litigations/ court cases filed/pending on the project should be provided.
- (xxxiii) 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.
- (xxxiiii) 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			
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ANNEXURE-VII

GENERIC TORs FOR AN OPENCAST -CUM UNDERGROUND COAL MINE PROJECT

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

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

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

**LIST OF PARTICIPANTS OF EAC (COAL) IN 33st MEETING OF
HELD DURING 25-26 July, 2022 THROUGH VIDEO
CONFERENCING**

1.	Shri G.P Kundargi			2- DAY S
		-	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.	Professor S S Rai, Representative of IIT/ISM Dhanbad	-	Member	P
9.	Shri M.P Singh, Representative of CEA	-	Member	A
10.	Dr. Santosh Kumar Hampannavar	-	Member	P
11.	Prof R.K. Giri Representative of IMD	-	Member	P
12.	Dr. Nazimuddin Representative of Central Pollution Control Board	-	Member	P
13.	Shri Lalit Bokolia, Director, MoEFCC	-	Member Secretary	P