MINUTES OF 9th MEETING OF THE EXPERT APPRAISAL COMMITTEE (COAL) FOR ENVIRONMENTAL APPRAISAL OF COAL MINING PROJECTS HELD ON 26thFebruary, 2021.

Friday, 26th February, 2021

Confirmation of the Minutes of 8th Meeting of the EAC (Coal) held on 11thFebruary, 2021: No comment was made from members of the committee on the minutes of the 8th meeting of the EAC held during 11th February, 2021 therefore the Minutes of the Meeting (MoM) of 8th EAC meeting was confirmed.

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 9th meeting of the Expert Appraisal Committee (EAC) for coal mining projects was held on 26th February, 2021 through video conferencing with support NIC team due to Covid-19 lockdown. The EAC considered proposals as per agenda adopted for the meeting. List of participant attended the meeting is annexed. The details of deliberations held & decisions taken in the meeting are as under.

Agenda No. 9.1

Expansion of Makardhokra-I Opencast mine (Phase-I) in Capacity from 2 MTPA to 3.50 MTPA of M/s Western Coalfields Limited in mine lease area of 614.69 ha located in Tehsil Umrer, District Nagpur (Maharashtra) – For Reconsideration of Environmental Clearance

[Online Proposal No [IA/MH/CMIN/154498/2018; File No. J-11015/91/2017-IA.II (M)]

9.1.1 This proposal is to seek prior Environmental Clearance to expansion of Makardhokra-I Opencast mine (Phase-I) in capacity from 2 MTPA to 3.50 MTPA of M/s Western Coalfields Limited in mine lease area of 614.69 ha located in Tehsil Umrer, District Nagpur (Maharashtra).

9.1.2 The EAC during deliberations noted the following:

Earlier the proposal was considered by EAC in its 56th meeting held on 30th June, 2020. The EAC after deliberations deferred the proposal for further information. PP on 17th February, 2021 has submitted the compliance of observation of EAC with respect to following points:

Sr. No.	Observations of EAC	Compliance / Submission of Project Proponent
1.	Letter of member secretary to MoEF regarding Public hearing is not provided or enclosed	Copy of the letter vide no. BO/JD(WPC)/PH/B-299831-FTS-0132 dated 31/08/2020 from MPCB, Mumbai addressed to MoEF & CC, New Delhi regarding submission of Public Hearing proceedings .

2.	PP shall justify the baseline monitoring conducted during October, 2019 to 15th January, 2020 and then PH was conducted on 16th January, 2020	The subject mine under consideration, is an operating mine having valid EC (granted vide letter no. J- 11015/54/2006-IA-II (A) dated 26.11.2015) for 2.00 MTPA capacity in a mine lease area of 614.69 ha which is now being proposed for expansion in production capacity only as Phase - I (from 2.00 MTPA to 3.50 MTPA). Terms of Reference (ToR) for the proposed expansion has been granted by Ministry vide its letter no. J-11015/54/2006-IA-II(M) pt.file dated 7th November, 2019. During the presentation, for grant of the aforesaid ToR, in 48th EAC meeting held on 04.10.2019, the PP apprised the EAC regarding the baseline data generated during the period April 2019 to June 2019 at six locations. The recorded data was found within the permissible limits. It may be mentioned here that, this period in specific reference to this region is worst /near to worst case scenario so far as ambient air quality is concerned with peak temperature and minimum humidity. It may be worthwhile to mention here that, the same has also been recorded in the minutes of 48th EAC at 48.19.2. The same data as presented before the EAC has been incorporated in the EIA – EMP, prepared and presented at Public Hearing. It may be further mentioned that, the EAC noted the submission of PP and advised further for 4-5 monitoring stations in the downwind areas which are to be included in the air quality monitoring. As per the aforesaid directives of EAC as recorded, additional monitoring stations in the downwind (5 Nos.) were selected and fresh ambient air quality data was generated in baseline frequency during October, 2019 to January 15, 2020. So far as this season is concerned (post - monsoon), this period is quite comfortable w.r.t. pre - monsoon season indicated in previous paragraph. From the above, it is concluded that, Public Hearing document (draft EIA-EMP) is already having valid baseline data as required and final EIA- EMP submitted to MOEF&CC is having, in addition to original baseline (April 2019-June 2019), the data generated during October 2019 to 15th January, 2020 as directed by EAC for air quality modeling.
3.	Permission of CGWA is still pending since 2017. Only application has	No Objection Certificate from CGWA has been obtained for abstraction of ground water vide its letter CGWA/NOC/MIN/ORIG/2020/8139 dated 09.06.2020 ”

	been done however no NOC obtained	
4.	PP shall correct details submitted in Form #2 Sr. No. 27 regarding R&R, PP states that there are 0 villages for R&R however at the end it mentions that R&R yet to start. And @ Sr. No. 35(4) Approved Mine Lease Area is stated as 614.69 ha however approval document enclosed states that the total land area is 660.02 ha	As far as R&R is concerned w.r.t. Expansion of Makardhokra- I Opencast Mine (Phase -I), it may be mentioned that, no rehabilitation envisaged in Phase - I of the Project. The same statement has been given at the time ToR presentation and accordingly recorded in ToR. Regarding, the query of "at the end it mentions that R&R is yet to start", it is most humbly submitted that in the online PARIVESH portal there is no drop- down option as "not required". Accordingly, with the available options, the best possible option relevant to "0" villages have been chosen Regarding the clarification in mine lease area, it is submitted that, project for proposed expansion has been conceived and planned in two phases viz. Phase - I & II. Accordingly, the Mining Plan has been prepared and approval of WCL Board has been secured for Phase – I & Phase – II. The land area involved in Phase - I is 614.69 ha and including Phase - II it will go up to 660.02 ha. The total land area of 614.69 ha as involved in Phase - I was apprised during ToR presentation and accordingly recorded in ToR. There is no additional land requirement in Phase - I.
5.	Study the Impact of diversion of Shirpur Nala and accordingly necessary permission from concerned State Water Resource Department shall be submitted	The Shirpur Nala is situated to the south of Makardhokra-I OC Mine. This is a seasonal stream which remains completely dry during non-monsoon period. In this regard, it is submitted that, the diversion will be carried out only with due permission from State Water Resource Department which is already in the process. For Diversion of this nallah correspondence was done with Central Design Organization, Water Resources Department (Planning & Hydrology) Nashik, Govt of Maharashtra vide letter no. WCL/SAM/USA/ENVT/2019/520 dated 01/10/19 and letter no WCL/UA/AGM/ENV/2020/337 dated 15/06/20. Accordingly, C.D.O. Nashik, Water Resources Department (Planning & Hydrology) submitted a proposal for Consultancy assignment for flood study and consultancy charges for anticipated Designs and Drawings. Subsequently, the proposal for "Consultancy charges for Design, drawing and flood study for diversion of Amb Nallah" amounting Rs 27.14 lakhs has been approved by WCL Board in its 328th meeting held on 30.12.2020 and communicated vide Board resolution No. WCL/office of CS/BM-328/2020-21/709 dated 07.01.2021. Copy of the approval has been submitted.

6.	Fresh /Separate baseline data for Flora & Fauna, should be generated instead of using of Dinesh OC (nearby Makardhokra - I OC)	As directed, fresh /separate baseline data for flora & fauna in respect of Makardhokra - I OC has been generated. • During the study, in buffer area of the project, one specie namely Varanus bengalensis (Indian Monitor Lizard/ Ghorpad) has been observed, which is falling in Schedule I species under Wildlife Protection Act, 1972. • For protection and conservation of schedule I specie (Varanus bengalensis - Indian Monitor Lizard/ Ghorpad), a conservation plan has been prepared with a budgetary provision of Rs 8 lakhs. • The conservation plan has been placed for approval from State Forest Department. The correspondences along with the conservation plan have been shown during the presentation.
7.	PP shall clarify why CER is not applicable though the proposal is for expansion from 2 MTPA to 3.5 MTPA, there must be additional capital invest for the project	In this, reference is drawn towards the Office Memorandum (O.M.) dated 1st May, 2018 regarding CER. As per the aforesaid O.M. the fund allocation for CER is based on the percent capital investment in case of green field project and percent of the additional capital investment in case of brownfield project. • The subject project is a brownfield project where in expansion in production capacity is envisaged without any increase in land area as well as any additional capital. • As per approved mining plan, there is no additional capital is involved. • In this regard, further reference is drawn towards the latest Office Memorandum (O.M.) vide F. No. 22-65/2017-IA.III dated 30th September, 2020 of MOEF & CC regarding "Deliberation on the commitments made by project proponent and requirements to address the concerned raised during the public consultation and prescribe as specific conditions while recommending the proposal, for prior environment clearance, in physical terms in lieu of Corporate Environment Responsibility (CER), regarding". The same is placed below for ready reference.
8.	Permission for diversion is required from concerned authority for Butibori-Kanwa PWD road which is passing in between proposed dip side quarry surface and external dump	The matter of diversion of PWD road is already taken up with PWD Authorities, correspondence was done vide letter no. WCL/UA/SO(C)/2020/316 dated 24/06/20. Public Works Department has submitted their estimate dated 23/07/2020 for Constructions and Diversion of said road, which is under scrutiny. The work will be executed by PWD on deposit basis. The OB dumping on proposed area / external dump will start

<table>
<tr><td></td><td></td><td>from 3rd year and the road will be diverted before actual dumping scheduled with due permission from the state authority.</td></tr>
<tr><td>9.</td><td>PP shall carry out hydro-geological investigations as regards the quality and quantity of water. Impact of mining activity on aquifers and water table considering the project is located near the Makardhokra Reservoir shall also be studied</td><td>Hydro-geological investigations as regards the quality:
Groundwater quality (mainly from phreatic aquifers) in the surrounding area of Makardhokra-I Expn. OC mine area (at Makardhokra Busstand, Makardhokra-Paradgaon Rd, Walsakra and Umrer) has been monitored by WCL through CMPDI, RI-IV, Nagpur and the results (2018-19) is given in Section 3.6.5 of Chapter 3 of EIA report, which indicate that groundwater quality in the area is potable. Generally, the water quality is slightly alkaline in nature with pH value of 7.9 - 8.4 and is of potable quality with low to medium concentration of ‘Total Dissolved Solids’ (TDS) varying from 296–776 mg/l which is within the permissible limit of 2000 mg/l (Standard (IS : 10500 : 2012)). The Fluoride content ranges between 0.47–0.62 mg/l which falls within desirable limit of 1.0 mg/l and Nitrates ranges from 4.94 -35 mg/l which is also within the desirable limit of 45 mg/l.
Hydro-geological investigations as regards the quantity:
• The quantitative evaluation of ground water resource is a pre-requisite for an effective management and development of ground water potential in any area. Detailed study for Ground Water Resource Estimation for the Buffer zone (10 Km radius Area) of Makardhokra-I Expn. OC mine has been done by using latest GEC-2015 guidelines. Details of the study are given in Section 3.6.4 of Chapter 3 of EIA report. Summary of the study is given table below.
<table>
<tr><td>Sl No</td><td>Description of items</td><td>Details</td></tr>
<tr><td>1</td><td>Net Groundwater Availability (M m^3)</td><td>20.45</td></tr>
<tr><td>2</td><td>Annual Gross Groundwater Draft (M m^3)</td><td>3.48</td></tr>
<tr><td>3</td><td>Balance Available Annual Groundwater for future development (M m^3)</td><td>16.97</td></tr>
<tr><td>4</td><td>Stage of Groundwater Extraction</td><td>17.02 %</td></tr>
<tr><td>5</td><td>Safe zone</td><td>Upto 70%</td></tr>
<tr><td>6</td><td>Category</td><td>Safe</td></tr>
</table>
The present stage of ground water extraction in and around</td></tr>
</table>

		the project area is 17.02 % which can be categorized as safe area. Moreover, as per Block Wise Ground Water Resource Assessment-2017 by Central Ground Water Board, Published in January 2020, Umrer Tehsil fall in "safe Category" in which Makardhokra-I Expn. OC mine is situated. Monitoring of ground water level has been carried out as precautionary measures for last 15 years in Umrer Coalfield area. Based on long term water level data, hydrographs of different villages have been prepared and presented below, also shown in **Section 3.6.3 of Chapter 3 of EIA report**. • The present stage of ground water extraction in and around the project area is 17.02 % which can be categorized as safe area. • <u>Moreover, as per Block Wise Ground Water Resource Assessment-2017 by Central Ground Water Board, Published in January 2020, Umrer Tehsil fall in "safe Category" in which Makardhokra-I Expn. OC mine is situated. So, there is further scope of ground water development/extraction.</u> • Monitoring of ground water level has been carried out as precautionary measures for last 15 years in Umrer Coalfield area. Based on long term water level data, hydrographs of different villages have been prepared and presented below, also shown in **Section 3.6.3 of Chapter 3 of EIA report**. **Prediction of Mine Inflow** • The opencast mine acts as large diameter well/sink resulted by cutting /extraction of different aquifer zones/formations overlying the working coal seams. As soon as depression / pit is created due to mine cut, the initial discharge is generally heavy due to concentration of flow to that region, thereby creating depletion/draw-down in water levels in the surrounding area and the inflow stabilizes due to partial desaturation over the period of progressive mining. The ground water inflow (mine inflow) is directly proportional to the potentiality of the aquifers present above the working coal seams, mine area and depth. Based on the Darcy's law (i.e. Q= KIA, where 'Q' is discharge/Mine inflow, 'K' is hydraulic conductivity, 'I' is hydraulic gradient and 'A' is Area of cross section/seepage area), the groundwater inflow for Makardhokra-I Expn. OC Mine has been predicted to the tune of 6752 m3/day. Hence

		pumping out of groundwater (because of the puncturing of the aquifers) would be inevitable and is necessary for the safe mining operation. **Estimation of Radius of Influence:** Due to gravity drainage of ground water, cone of depression would be formed. The shape and extent of the cone would depend on mainly hydraulic conductivity of the aquifer in the mining area, mine depth. Generally steep drawdown cone would be formed in poor potential aquifer (less transmissive) thereby the influence area is to small distance and reverse is established in respect of aquifers with high hydraulic conductivity. The radius of influence for Makardhokra-I Expn. OC Mine is estimated by using Sichardt's formula as follows $R = C*(h-hw)*\sqrt{k}$) Where, R- Radius of influence (m), C=3000 (Constant), (h-hw) – drawdown (40 m) and K-Hydraulic Conductivity (0.0030417 m/sec). The radius of mine influence area has been estimated for Makardhokra-I Expn. OC Mine based on the above mentioned aquifer and mine parameters and works out to around 370 m at final mine depth of 140 m. **Impact of mining activity on Makardhokra Reservoir:** The probable zone of influence of mining and dewatering of the aquifers has been estimated for this mine is about 370 m from bottom of the unconfined/semi-confined aquifers. When the cone of depression (probable zone of influence) intersects the reservoir, a hydraulic gradient develops between the ground water in the aquifer and the water level in the reservoir. If the reservoir bed is hydraulic connected with the aquifer, reservoir water will move towards mine through the aquifers under the influence of hydraulic gradient. For the case of Makardhokra-I Expn. OC mine, the cone of depression (probable zone of influence) is only 370 m and the minimum distance between the Makardhokra-I Expn. OC quarry and Makardhokra Reservoir is about 2.30 km. So, there is hardly any chance of intersect of radius of mine influence zone and Makardhokra reservoir. The water table contour map reveals that the regional ground water movement is from the Western to North-Eastern i.e. towards the mine then ultimately towards the Amb River. PP showed post-monsoon water table contour in buffer zone of Makardhokra-I Expn OC mine The movement of the ground water through unconfined aquifers mainly depends on the hydraulic gradient and

		hydraulic properties of aquifers present between Reservoir and Mine working. The hydrogeological regime has been projected from the Geological and Hydrogeological data which may represent the existing hydrogeological set-up in between Makardhokra-I Expn. OC and the Reservoir. Geological cross section of Combined Block (Makardhokra-I & IV) along with aquifer disposition and a schematic diagram have been prepared and shown in figures below. Geological cross section of combined Block and Schematic diagram showing prevailing hydrogeological regime in the area was showed during the presentation. The aquifer system in the area mainly consisting of five types of different geological formations which are Soil, Deccan Trap, Lameta, Kamthi and Coal bearing Barakar formation. If there develops any hydraulic gradient between reservoir water level and water table of surrounding aquifers, then the movement of ground water will take place through shallow unconfined aquifer only considering the maximum depth of the reservoir is 40-50m. The shallow unconfined aquifers in this area are mainly consisting of black cotton soil / detrital mantle, hard basalt of Deccan traps and Lameta formation. Weathered/fractured Basalt are known to be poor potential aquifer, below hard and massive basalt, hard cherty, clayey and calcareous sandstones of Lameta formation is present and it substantially reduces the potentiality of the shallow aquifer (average depth is around 40-50 m). Moreover, the presence of Lameta formation also reduces the ground water recharge of underlying Kamthi and Barakar aquifers also. As, there is presence of hard massive basalt of Deccan Trap and cherty Lameta formation (both are poor potential aquifer) in between the Reservoir and Mine working, there will be restriction of groundwater movement through these aquifers. Hence, there will be hardly any chance of getting affected the Makardhokra Reservoir due to mining activity which is 2.3 km apart from final mine workings of Makardhokra-I Expn. OC Mine
10.	PP shall implement separate ETP for the proposed project for HEMM deployed though their maintenance will be Contractor's responsibilities.	Project does have an ETP of capacity 100 KLD which is in operation.

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<td>11.</td>
<td>PP shall provide necessary mitigation measures as maximum Air quality data of PM10 and PM2.5 is almost close to 100 and 60 respectively at almost all the sites.</td>
<td>It has been submitted that the mitigation measures for control of air pollution (existing as well as proposed) as given in the EIA-EMP are reproduced below:-
<table>
<tr><th>Particular/ Location</th><th>Magnitude of air pollution</th><th>Present Control Measures</th></tr>
<tr><td>Drilling</td><td>Dust generation</td><td>Drilling is carried out with drill fitted with dust extractors</td></tr>
<tr><td>Blasting</td><td>High Dust generation (Impact lasts for short period)</td><td>Presently controlled blasting is carried out in Makardhokra – I OC. Controlled blasting techniques with use of delay detonators are practiced during day time to control of ground vibration and to arrest the fly rock.
Blasting face is kept moist before blasting to reduce dust generation due to blasting.</td></tr>
<tr><td>Loading of material</td><td>Particulate emission</td><td>The persons exposed to dusty area is provided with protective gears like dust masks with goggles which is also a statutory requirement. As per statute all personnel working in mines is given training and retraining for safety aspects as being done presently in other operating mines of the company. Material is wetted with Fixed sprinklers installed at transfer points.</td></tr>
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		Transportation	Dust potential	20 Nos. of fixed sprinklers have been installed along the weigh bridge and approach road. In addition, water spraying on haul road is being carried out by 01 no of mobile water sprinklers of 28 KL and 03 nos. of 20 KL mobile water sprinklers. Rs 18. 76 lakh has been spent on mobile water sprinkler. Expenditure of Rs 55.46 lakh has been incurred to provide tyre wash system at security check post. Tyre wash system has been installed to reduce emission from movement of vehicles. 44 Nos. of fixed sprinklers have been provided at Wharf Wall. Total 30.89 lakh has been spent for installation of fixed type water sprinklers.

In case the air quality monitoring indicates increase in pollution level, additional fixed sprinklers and mobile water sprinklers will be provided by the project proponent.

All these measures will continue to be operated and maintained throughout the mine life.

Provision of additional control measures in enhanced scenario

- To fulfil future requirements/ upgradation of Env. mitigative measures provision of Rs. 45.0 Lakhs is done from balance Capital Provision of Makardhokra-I OC as envisaged in Project Report 2014.
- 2 nos of additional mobile water sprinkler will be available to Makardhokra – I Expn. OC after exhaustion of Umrer OC.

In this regard, it further mentioned that the recorded level of pollutant in the ambient air at a particular location is a "combined capture" of all contributing sources. In case of locations near the mine, in addition to mining pollution other sources e.g. road traffic, other industries also contribute significantly towards pollution. This fact has been established while analyzing the environmental monitoring data of April - May 2020 and simultaneously comparing values of April -

		May 2019. As we are aware that during April- May 2020, there was complete lockdown throughout the country but during this period mining operations were in full swing as it is under essential services act. The data in respect of Shirpur Village and Kanwa Village has been considered as these two stations are closest to the mine; these are regularly monitored and also monitored during baseline which showed values close to 100 in case of PM10. The detailed analysis has been given, it may be seen that significant decrease in recorded values has been observed due to lockdown during April - May 2020 in comparison the normal life cycle of April - May 2019. In other words, contribution from mining is insignificant towards ambient air pollution in the immediate surroundings. However, all the pollution control measures will continue to operated and maintained throughout the mine life for effective control of dust nuisance.
12.	Mitigation measures to protect residence of Shirpur should be proposed by PP as rehabilitation of Shirpur village is proposed in Phase - II	The aerial distance of Shirpur village is about 900 m from active mining zone. An embankment has been constructed with a minimum height of 6 m, width 30 m and with overall length of 2.10 km in order to create a physical barrier between active mine zone and Shirpur village. However, at the project appropriate control measures for minimizing the adverse impact as far as possible are being taken and will continue to be taken (with augmentation). The details are as follows: At Shirpur village, fortnightly monitoring is carried out to assess ambient air quality. The concentrations of all monitored parameters are well within the stipulated standards as per Environment (protection) Amendment Rule, 2000. For dust suppression following control measures are provided at Makardhokra-I Expn. OC Mine: • Fixed Sprinklers, 20 nos. at Weigh Bridge and Coal transport road, 44 nos. at Railway siding Wharf wall, 10 nos. at Coal Handling Plant. • Mobile tankers, 2 nos. 28 KL capacity and 3 nos. 18 KL capacity. Controlled blasting techniques with use of Non electric delay detonators are practiced to control ground vibration and to arrest the fly rock. All blasting practices are carried out as per norms of Director General of Mines Safety (DGMS). Actually Shirpur village is located by the side of State Highway -262 which connects Maharashtra Industrial Development Corporation (MIDC), Butibori with Umrer

		Town. The road traffic contribute significantly towards air pollution at the village which is further established from the analysis of data at the village for the period April - May, 2020 vis - a- vis April- May 2019. It can be seen that the values recorded during lockdown period were significantly less compared the values of April - May 2019. This clearly establishes the fact that, activities other than mining at Makardhokra - I OC contribute significantly towards ambient air pollution at Shirpur Village. However, all mitigation measures will continue to be operated and maintained till Shirpur village is shifted.
13.	Clarification from District Forest Officer that Project does not fall under Umred Karhandla Wildlife Sanctuary, Tadoba Andhari Tiger Reserve, Navegaon Nagzira Tiger Reserve, Melghat Tiger Reserve, Bor Wildlife Sanctuary and Tipeshawar Wildlife Sanctuary and there is no wildlife corridor (Tiger/elephant)	Regarding clarification from District Forest Officer pertaining to location of the project w.r.t Umred Karhandla Wildlife Sanctuary, Tadoba Andhari Tiger Reserve, Navegaon Nagzira Tiger Reserve, Melghat Tiger Reserve, Bor Wildlife Sanctuary and Tipeshawar Wildlife Sanctuary and there is no wildlife corridor (Tiger/elephant); it is submitted that, clarification on the matter has been received from Office of Principal Chief Conservator of Forest (Wildlife), Maharashtra State vide letter no. Desk -23 (2)/WL/ Survey/ CR. No.81/ 2784/ 2020-21 dated 11.02.2021. Quote: i) The proposed mining project is not in any protected area ii) The proposed mining project is not within 10km radius of any protected area iii) The proposed mining project is not within Eco-sensitive zone of any protected area iv) The proposed mining project do not fall within the corridor area as per "Tiger Corridor of Eastern Vidarbha Landscape" published by Wildlife Institute of India, Dehradun. However, the corridor passes within the vicinity (nearest distance 1.5 km) of the proposed mining project The copy of the above mentioned clarification on the matter received from Office of Principal Chief Conservator of Forest (Wildlife), Maharashtra State vide letter dated 11.02.2021 along with duly certified map showing proposed mining project with 10 km boundary with respect to tiger corridor has been submitted.

9.1.3 The EAC during deliberations noted the following:

- The proposal is for Environmental Clearance to the Expansion of Makardhokra-I Opencast mine (Phase-I) in Capacity from 2 MTPA to 3.50 MTPA of M/s Western

Coalfields Limited in mine lease area of 614.69 ha located in Tehsil Umrer, District Nagpur (Maharashtra).

- No forest land has been reported to be involved in the project. Clarification regarding location of the project w.r.t Umred Karhandla Wildlife Sanctuary, Tadoba Andhari Tiger Reserve, Navegaon Nagzira Tiger Reserve, Melghat Tiger Reserve, Bor Wildlife Sanctuary and Tipeshawar Wildlife Sanctuary and wildlife corridor (Tiger/elephant) has been received from Office of Principal Chief Conservator of Forest (Wildlife), Maharashtra State vide letter no. Desk -23 (2)/WL/ Survey/ CR. No.81/ 2784/ 2020-21 dated 11.02.2021.

- Public Hearing has been conducted at Community Hall, WCL Colony, Umrer Tehsil, District Nagpur, and Maharashtra at 11.00 AM on 16.01.2020 chaired by Additional District Magistrate Shri Ravindra Khajanji. Major issues raised in the public hearing include mitigation of air & water pollution, compensation, land compensation, Employment, roads, Plantation, CSR etc. Appropriate action to address the issues raised in the Public Hearing shall be taken.

- Consent to Operate has been granted for existing Makardhokra – I OC for 2.00 MTPA capacity vide Format1.0/BO/CAC-Cell/CAC- UAN No. 24388/ CC-1901000356 dated 05.01.2019 valid from 31.03.2016 to 31.03.2021.

- Baseline data generated including meteorological data, air quality, water quality, and noise quality during the period April 2019 to June 2019 at six locations. Further, as directed during the 48thEAC meeting held on 03-04 October 2019& specific ToR conditions, additional monitoring stations in the downwind (5 Nos.) were selected and fresh ambient air quality data was generated in baseline frequency during October, 2019 to January 15, 2020 (post - monsoon). The recorded data was found within the permissible limits.

- Ambient Air Quality Monitoring reveals that the baseline concentrations of PM10 78 µg/m3 and incremental concentration is 9.87 µg/m3, total GLC is 88 µg/m3 and the baseline concentrations of PM 2.5 is 29 µg/m3 incremental concentration is 1.64 µg/m3, total GLC is 31 µg/m3. The concentrations of SO2 and NO2 were found 13 µg/m3 and incremental concentration is 0.58, total GLC is 14 µg/m3 and 16 µg/m3 and incremental concentration is 26.46 µg/m3, total GLC is 43 µg/m3

- The committee noted that Nala No-2 (Shirpur nala) flowing in the eastern direction passing through the central part of the block is a seasonal nala and it ultimately discharges into the Amb river further east near Kanwa village outside the block. It was noted that PP has not submitted any design details specification such length, area of diversion, zone of influence and implication of diversion.

- Butibori-Kanwa PWD road which is passing in between proposed dip side quarry surface and external dump.

- EAC further noted that fund allotted for wildlife conservation plan is not appropriate and PP has to increase the fund allocated for the same. Also adequate capacity of ETP has to be proposed by adding wastewater generated from vehicles washing facilities. No details were presented regarding green belt and its allocated fund for development of greenery.

- Further EAC deliberated the Certified Compliance of EC dated 26th November. 2015 submitted by Ministry's Regional Office dated 1 st October 2019. Partial compliances & non-compliances were highlighted in the report such as CSR amount under utilisation, monitoring of Noise pollution etc. Regarding Amb river diversion & embankment under the ambit of condition at (x) i.e, Appropriate embankment shall be provided along the side of river/ nallah flowing near or adjacent of the Mine, during the Presentation, PP submitted that Amb river diversification was undertaken in 2016 as a part of of EC of Umrer OC & Umrer OC Mine is adjacent to Makardhokra I OC Project. Also at condition (xxiii) it is mentioned that silt & sediments from the OB Dump flow in to Mine sump, no details of dimension of retaining wall at the toe of the Dumps or OB benches within the Mine has been provided.

9.1.4 *The EAC after detailed deliberations observed that there are various issues which required further deliberations and inputs from PP. Further one of non-compliances has been highlighted by Ministry's Regional Office about Amb River which has been diverted, while as per EC condition the river bank was required to be strengthened through embankment. Also CSR provision, ETP augmentation, GW contamination, cost of conservation plan has not been addressed properly for the proposed project. In view of the non-compliances of earlier EC, the Committee recommends to sought clarification from Project Proponent. Further Committee proposed to issue the SCN to Consultant for submitting incomplete details. EAC desired further compliance on below mentioned observations.*

(i) PP to submit the Action Taken Report on the non-compliances/partial compliances of existing EC conditions and clarification on diversion of Amb River.

(ii) PP should submit the details of Environment Management Plan regarding the commitments made during the Public Hearing. PP shall provide CSR provision with adequate effectiveness of EMP

(iii) PP to provide the clarification for ETP expansion in view of additional load due vehicle washing/servicing and justification on ETP capacity with wastewater load from all sources. Accordingly, Water Balance diagram with zero liquid discharge considering no untreated mine water discharged in river

(iv) PP needs to recheck Quality of ground water in view of public concern raised near flood area due to embankment.

(v) Detailed plan to submit for trees plantation along both the sides of the Butibori-Kanwa PWD road which is passing in between proposed dip side quarry surface and external dump with broad leaves in three years to prevent the effect of air pollution.

(vi) PP shall revise the cost of Conservation plan of schedule I species.

(vii) PP shall increase the fleet size for transportation of coal along with proper road networks to avoid dust emission and include it as EMP.

*The proposal is **deferred** in above lines*

Agenda No. 9.2

Suliyari Coal Mining Project of 5.0 MTPA of M/s Andhra Pradesh Mineral Development Corporation Limited in mine lease area of 1298 ha located in Singrauli Coalfields, Tehsil Sarai, District Singrauli (Madhya Pradesh) –For Reconsideration of Environmental Clearance – reg.

[Online Proposal No. IA/JH/CMIN/194486/2021; File No J-11015/66/2015-IA.II(M)]

9.2.1 This proposal relates to prior Environmental Clearance to Suliyari Coal Mining Project of 5.0 MTPA of M/s Andhra Pradesh Mineral Development Corporation Limited in mine lease area of 1298 ha located in Singrauli Coalfields, Tehsil Sarai, District Singrauli (Madhya Pradesh)

Earlier this proposal was recommended by EAC in its 56th meeting held on 30th June, 2020. While recommending the proposal, the EAC gave following statement;

"*the proposal for grant of Environment Clearance to Suliyari Coal Mining Project of 5.0 MTPA capacity of M/s Andhra Pradesh Mineral Development Corporation Limited in mine lease area of 1298 ha located in village(s) Aamdand, Amraikhoh, Bajaudi, Belwar, Dongari, Dhirauli, Jhalari, Majhaulipath and Seerswah, Tehsil Sarai, District Singrauli (Madhya Pradesh) for **a period of 1 year**, under the provisions of the Environment Impact Assessment Notification, 2006 and subsequent amendments/circulars there to subject to the compliance of the following terms & conditions / specific conditions"*

Ministry while processing the proposal sought clarification for justification of being recommending EC for one year and also need of site visit in Covid situation. In this context, the Project was reconsidered by sectoral EAC. PP has submitted the following information in regard with the two conditions i.e. requirement of site visit and EC for one year.

The EAC after deliberations recommended the proposal for grant of Environment Clearance subject to certain terms & conditions for one year. PP has submitted the compliance of observation of EAC with respect to following points to the Ministry.

Sr. No.	Observations of EAC	Compliance / Submission of Project Proponent
1.	EC will not be effective and issued to PP till Stage-I FC is granted and submitted to the ministry.	Stage-I FC accorded for 259.239 ha of forest land involved in the project vide letter no. 8-02/2020-FC dated 15-12-2020.

3.	Confirmation on the claim by PP from District Forest Officer regarding distance of project site to Kaimur Wildlife Sanctuary, Sanjay Dubri Wildlife Sanctuary and Guru Ghasi Das (Sanjay) National Park and Tomorpingla Wildlife Sanctuary shall be obtained by PP.	Letter has been obtained from CCF with vide letter S.no./ machi/ 2020/ 4790 dated 9.9.2020 and another letter from DFO has been obtained by S.no / machi/181 dated 18.1.2021

- The core zone (Suliyari Coal Block) drains into Hurdul nala which joins with Gopad river outside the core zone at a distance of about 9.7 km in west direction w.r.t. the ML area.
- The proposed diversion of Hurdul nala is only for the stretch of nala which is flowing over the coal bearing area within Suliyari Coal Block. The diverted channel is also inside the block boundary.
- The proposed diversion will not affect the quantity / flow of water draining into Gopad river.
- Detailed Project Report for diversion of Hurdul nala including impact of the project on hydrology of the river basin has been prepared.
- Nala diversion has been approved by Water Resource Department, Madhya Pradesh.

Note- The other tributaries of Gopad river within the study area *viz. Amta nala, Chhtraha nala, Bibiao nala, Sulkhia Nala* are outside the catchment area of Hurdul nala. The drainage system of Suliyari Coal Block has no bearing on these tributaries of Gopad river.

Existing Nalla details are as given Below-

Parameters	**Details**
Total length of Nala	20.5 km
Length of Nala inside the block	5.48 km
Avg. width (within block)	35m
Depth (within block)	1.5m to 4.0m
Catchment area upto entry point	17.98 km^2
Catchment area upto exit point	41.50 km^2
Bed level at entry point	412.52 mRL
Bed level at exit point	376.53 mRL

Proposed Diversion details are as given below-

Parameters	**Description**
Length of Diversion channel	9.02 km
Designed discharge capacity	305.25 to 527.11 cum/sec
Velocity	3.38 m/sec to 3.63 m/sec
Type	Gravity Diversion Channel
Shape	Trapezoidal
Material	Cement concrete
Bed Width	20m
Full Supply Depth	4.80 to 6.75 m
Velocity	2.34 /sec to 2.59 m/sec

- MoC's Approved: Hurdul Nalla Cross Section & Invert level (bed level) has been presented Management measures for prevention of flood, slope failure and water pollution area.
- The diversion channel is being well designed with a factor of safety to carry the discharge from off-take point to the exit point of nala within the ML area.
- High bunds are proposed at the off-take point, intersection points of rivulets and discharge point in nala.
- Partial pitching / plantation has been recommended for safety against slope failure.
- Bed of channel shall be completely lined and side slopes should be lined up to free board of water depth.
- A berm of [2m X 2m] at the top shall be made in trapezium shape all along the edge of each deck to prevent erosion of dumps and gully formation during rainy season.
- The terrace shall be kept free of obstructions (OB heaps), sloped in bye and maintained with uniform gradient for free flow of water in order to avoid accumulation of water leading to gully formation and dump slides.
- Plantation shall be done over and around OB dumps and proposed embankments to ensure stability of slopes and prevention of dust generation by wind action.
- Garland drains have been planned on along periphery of quarry, external dump, backfilled areas (depending on contours). The garland drains shall be routed through catch pits and settling tanks to settle out suspended solids in the storm water. The clarified water will be discharged to natural water courses.
- Small grasses and bushes in drains hold back solid particles from draining away. Small stone barriers across the drain will check water current and arrest solids.
- Stone pitching will be made at suitable places to regulate water flow. Some of the drains which will serve for a long time shall be made pucca. Settling pits, drains, diverted nala shall be cleaned regularly, especially during monsoons.
  - ✓ The proposed diversion will not affect the Basin and sub basin flows, as the discharge received at end point of diversion channel is the flood discharge of the same catchment area of Hurdul Nala. Thus the diversion will not change in catchment area of Hurdul nala.
  - ✓ For additional safety the diversion channel has been designed for more discharge capacity to accommodate additional flood discharge along with high channel bunds on both side.
  - ✓ The scheme involves very simple civil engineering works and can be completed in a period of 2-3 years.
  - ✓ Naturally occurring construction materials like sand, screened gravel and aggregates etc. are available in the nearby area. Construction of the proposed diversion channel is safe for environment and habitation in the nearby area.
- Hydrology of the project, design and drawings of proposed diversion channel has been well evaluated by Water Resources Department, M.P. As per the approval letter issued construction will be executed in presence of officials of Water Resources Department, M.P.
  - ✓ No endangered, threatened and endemic category fauna as per the IUCN-Red Data Book (RDB), Botanical Survey of India (BSI), Indian wildlife (Protection) Act, 1972 reported in the water body. Only small fishes are present like *Chela, Magur, Punti & snakehead* etc.

- ✓ Natural re-colonization of aquatic species is likely to take place, once flow of energy and nutrients will restore in the diverted channel.
- ✓ The proposed nala diversion scheme has minimal interference with the environment and hence would not affect the aquatic ecology of the study area.

9.2.3 *The EAC, after deliberations found responses given by PP are satisfactory in view of protection measures being proposed for embankment construction and safeguard for flood protection and also excluded the condition of site visit, being green filed project and* ***recommends*** *the proposal for grant of Environment Clearance to Suliyari Coal Mining Project of 5.0 MTPA of M/s Andhra Pradesh Mineral Development Corporation Limited in mine lease area of 1298 ha located in Singrauli Coalfields, Tehsil Sarai, District Singrauli (Madhya Pradesh) for life of the mine or 30 years whichever is earlier, under the provisions of Environment Impact Assessment Notification, 2006 and subsequent amendments/circulars thereto subject to the compliance of the following additional terms & conditions / specific conditions*

(i) The Project Proponent shall undertake the plantation in peripheral zone as given in the EIA/EMP report with at least 90% survival rate and complete the entire plantation within 3 years from the date of start of mining operations.

(ii) PP shall submit water bodies Conservation Plan and also PP shall take care of downstream town/villages for water supply. Study the impact of embankment along river and propose mitigation measures bearing in mind that no villages shall be flooded due to embankment.

(iii) Project Proponent shall leave 50 m-60 m barrier blasting permission from DGMS for conducting mining operation from the diverted stream and do plantation along both sides of stream.

(iv) PP shall be monitoring inlet and outlet of diverted stream with respect to quality and quantity (Digital flow meter to check the volumetric flow rate) quarterly and submits its report to SPCB and Ministry's Regional Office.

(v) PP shall maintain the diverted stream and accordingly maintenance schedule should be submitted to State Pollution Control Board.

(vi) PP shall plant 200 ha of Sal trees(only) and create a nursery of 5 ha to distribute the species freely in the region for redevelopment of Sal forest in the region.

(vii) Prior green belt of at least 10-20 m width shall be developed in more than 40% of the total project area, mainly along the plant/mine periphery, in downward wind direction, and along road sides etc. Selection of plant species shall be as per the the CPCB guidelines in consultation with the State Forest Department.

(viii) In addition, the project proponent shall develop greenbelt outside the plant premises such as avenue plantation, plantation in vacant areas, social forestry etc.

(ix) Monitoring of compliance of EC conditions may be submitted with third party audit every year.

(x) Seasonal River water quality monitoring to be conducted except non-monsoon season for the drinking water parameter including BOD, COD, TSS and data so generated to be provided to SPCB through web portal and respective RO, MoEF&CC in the six monthly compliance. .

(xi) Peripheral Green belt development inside R&R colony and Project Township shall be developed. Only 60t dumper for coal transportation to reduce number of trucks and 100t/150t dumper for OB handling shall be used till the development of railway siding (5 years).

(xii) Ultra-Sonic Flow Meter shall be installed for measuring of quantity of effluent in ETP and STP. Continuous online monitoring system (24 x7) shall be installed for measuring effluent quality and same shall be connected to SPCB website.

Agenda No.9.3

Cluster-I (Damoda Group of 3 Mines - Damoda (Albion Section) OCP, Damoda UGP and Damuda BJ Section OCP) Group of Mines (of 0.9 MTPA normative and 1.17 MTPA (peak)in a combined ML area of 575 ha) of MIs Bharat Coking Coal Ltd. located in Jharia Coalfields, Block Chandrapur, dist. Dhanbad, (Jharkhand)- Amendment of EC.

[Online Proposal No. IA/JH/CMIN/196431/2021; J- 11015/93/2009-IA.II(M)]

9.3.1 The EAC, during deliberations noted the following:

The proposal is for amendment of existing EC for Cluster I Coal Mining Project of 1.17 MTPA (Peak) capacity in mine lease area of 575 Ha of M/s Bharat Coking Coal Limited located in District Dhanbad (Jharkhand).

Earlier, the environment clearance to the project was obtained under EIA Notification, 2006 vide Ministry's letter No F.No.J-11015/93/2009-IA.II (M) dated 6th February, 2013 for 1.17 MTPA (Peak) in mine lease area of 575 Ha.

PP has requested that earlier EIA/EMP was prepared on composite Mine/cluster basis and cluster capacity, also Area/technology remains unchanged, no additional impact due to revision in mining Plan is anticipated. It is therefore requested to amend the Specific condition (i) of EC as under: The production of cluster shall not exceed 1.17 MTPA as under: Following are the details of cluster 1 with respect to individual mines and its peak capacity. Following amendment is proposed.

<table>
<tr><td colspan="10">Cluster I (Damoda Group of Mines)</td></tr>
<tr><td>Sl no</td><td colspan="6">As per Existing EC</td><td colspan="4">Amendment Sought</td></tr>
<tr><td></td><td>Name of the Mine</td><td>Type of Mine</td><td>Peak Production (MTPA)</td><td>Lease Area (Ha)</td><td>Mine Life (Years)</td><td>Proposed Amendment</td><td>Peak Production (MTPA)</td><td>Lease area (Ha)</td><td>Balance Mine Life (Years)</td></tr>
<tr><td>1</td><td>Ghutway OCP (Closed for production)</td><td>OC</td><td>-</td><td rowspan="3">575</td><td>-</td><td rowspan="3">Damoda Colliery</td><td rowspan="3">1.17</td><td rowspan="3">575</td><td rowspan="3">5</td></tr>
<tr><td>2</td><td>Damoda (Albion Section)</td><td>OC</td><td>0.26</td><td>8</td></tr>
<tr><td>3</td><td>Damoda UG</td><td>UG</td><td>0.13</td><td>10</td></tr>
</table>

4	Damoda (BJ Section) OCP Proposed	OC	0.78		10				
	Total		**1.17**	**575**		**Total**	**1.17**	**575**	**5**

PP submitted that as per earlier EC, the life of Damoda (Albion section OC) is 8 years and the life of the Damoda underground mine is 10 years. The life of the proposed Damoda (B Section) OCP is 10 years.

9.3.2 Project proponent has sought amendment in view of Mining Plan of Damoda Colliery has been prepared approved by 372nd M/s BCCL Board on 7th January, 2021 and citing the feasibility of the operations. It is proposed to extract coal by opencast method of mining by designing the final pit slope in such a way as to extract available coal, including Coal + Jhama zone and leave heat affected coal (Jhama) in the batter in Ghutway OC section, which is a closed unit at present. There is no detailed proposal of Underground/opencast operation to extract reserve locked within the remaining leasehold area in this proposed mining plan.

- Mining Plan along with Mine Closure Plan of Damoda group of Mines having Peak Capacity 1.17MTPA, Lease hold Area 575 Ha, Balance Life 05 Years and the total Mine Closure cost of R13.203 Crore (Rupees Thirteen Crore twenty lakhs thirty thousand oniy) including tne already deposited amount of F8.93480 Crore was approved by the Board.

- It was noted that Sijua, Patracoli, Karmatand Bastee and Village is located within the cluster in between mines. Parsatand Village is near to OB dump of 60 mtrs.

- It is noted that application of grant of amendment has been submitted on 4th February, 2021 with further extension in life of the mine as 5 years.

9.3.3 *The EAC after deliberations recommends the proposal for grant of amendment in Environment Clearance dated 6th February, 2013 to Cluster-I (Damoda Group of 3 Mines - Damoda (Albion Section) OCP, Damoda UGP and Damuda BJ Section OCP) Group of Mines (of 0.9 MTPA normative and 1.17 MTPA (peak)in a combined ML areaof 575 ha) of M/s Bharat Coking Coal Ltd. located in Jharia Coalfields, Block Chandrapur, dist. Dhanbad, (Jharkhand) as per EIA Notification, 2006 with all the condition stipulated in EC 6th February, 2013 shall remain the same and subject to additional conditions as mentioned below for environment safeguards:*

(i) The production of cluster shall not exceed 1.17 MTPA without any change in overall production capacity.
(ii) In-active OB dump shall not be kept barren/open and immediately reclaimed and re-graded to improve the land form and covered by temporary grass etc. for better land use post mining on closure.
(iii) PP shall regularly check the water quality of mine pit water for drinking water standards at regular interval of time.

(iv) Thick green belt of adequate width at the final boundary in the down wind direction of the project site shall be developed to mitigate/check the dust pollution.

(v) Peripheral tree plantation around the affected villages of Sijua, Patracoli, Karmatand Bastee and Village and Parsatand Village which is near to OB dump of 60 mtrs shall be done within two years.

(vi) PP shall submit a third party assessment of EC Compliance shall be undertaken once in three years through agency like ICFRI/ NEERI/IIT or any other expert agency identified by the Ministry to Ministry's Regional Office.

(vii) Continuous Monitoring at Occupational safety and health hazards and the Corrective action need to be ensured.

(viii) Continuous air quality monitoring station shall be installed and monitoring should be commenced within 10 months from date at least at 2 locations in consultation of SPCB

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

(x) Hon'ble Supreme Court in an Writ Petition(s) Civil No. 114/2014, Common Cause vs Union of India & Ors vide its judgement dated 8th January, 2020 has directed the Union of India to impose a condition in the mining lease and a similar condition in the environmental clearance and the mining plan to the effect that the mining lease holders shall, after ceasing mining operations, undertake re-grassing the mining area and any other area which may have been disturbed due to their mining activities and restore the land to a condition which is fit for growth of fodder, flora, fauna etc. Compliance of this condition after the mining activity is over at the cost of the mining lease holders/Project Proponent". The implementation report of the above said condition shall be sent to the Regional Office of the MoEFCC.

(xi) Project Proponent shall obtain blasting permission from DGMS for conducting mining operation near villages and also explore deployment of rock breakers of suitable capacity in the project to avoid blasting very near to villages. There shall be no damages caused to habitation/structures due to blasting activity

(xii) 5 nos. of Fog canon (mist sprayer) shall be installed to reduce the impact of air pollution

Agenda No.9.4

Setting up of Coal Washery of 0.96 MTPA/ 175 TPH capacity in 20 acre by M/s Balaji Coal Resources Private Limitedat Village Pidartali, TehsilSingrauli, District Singrauli (Madhya Pradesh) – For Terms of Reference – reg.

Online Proposal No. IA/MP/CMIN/198031/2021; IA-J-11015/12/2021-IA-II(M)

9.4.1 The proposal is for Terms of Reference to Setting up of Coal Washery of 0.96 MTPA/ 175 TPH capacity in 20 acre by M/s Balaji Coal Resources Private Limitedat Village Pidartali, TehsilSingrauli, District Singrauli (Madhya Pradesh).

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

(i) M/s Balaji Coal Resources Pvt. Ltd. intends to set up a 0.96 MTPA Coal Washery Plant at Singrauli, Madhya Pradesh.

(ii) The Coal Washery Plant shall wash linkage le-auction raw coal of various customers and the washed coal shall be used in Cement Plants, Power Plants, etc.

(iii) The proposed project falls in Item 2(a) of the Schedule vide EIA notification 2006 amended to date involving preparation of Environment Impact Assessment study and Environment Management Plan under Category B1. However general condition is applicable to this project inter-state boundary is at a distance of 4.5 km from the site and hence shall be appraised at the Central Level.

(iv) This project is independent and is not linked with other projects which may attract directly or indirectly any provisions of schedule of EIA notification 2006 amended to date

(v) The site is located on a land measuring 8 ha/20 acres at village Pidartali, Tehsil & District Singrauli, Madhya Pradesh. The site is connected by village roads from Anpara-Singrauli road which is 1.2 km from the site in eastern direction. The nearest major highway is NH-75 passing at a distance of 8.7 km in SE direction. The nearest railway Station is Singrauli Railway Station, which is 4.4 km in SW direction.

(vi) The nearest water body is Ghaghawa N, which is 800 m from the site.

(vii) The nearest forest patch is Churki PF, which is 0.5 km in NE direction.

(viii) The raw material and washed coal will be transported from mine site & to the customer by road & rail network.

(ix) No alternative sites were taken into consideration for the project because the proposed site for the project was allotted by MP Industrial Development Corporation Limited,

(x) The coal shall be cleaned through Batac Jig process that produces Clean Coal and Reject Coal.

(xi) The raw coal from different mines shall be transported to the washery by Rear Dump Trucks as well as the washed coal shall be transported via road from the Churki yard which is about 1.5 km from the site. About 30% of raw coal i. e. 2,88,000 TPA

(xii) The middling Coal will be generated by the proposed Washery which will be supplied to the user industry and CFBC based thermal plants located nearby washery. The middling coal will be transported to the Julk consumers by rail and to the small consumers by truck.

(xiii) Seasonal nala is passing through the project site which shall be retained by forming culverts over it.

(xiv) Water for the plant shall be taken from bore well and from rain water harvesting ponds inside the plant area during rainy ays.

(xv) Approximate make-up water requirement for the plant including process make up water, dust Suppression, road sprinkling, gardening and toilet use shall be 20 m3/hr (i.e. 400 m3 /day).

(xvi) The Coal Washery Process shall be designed for Close Circuit Water System to ensure Zero Effluent Discharge. For this purpose, the effluent frog the Coal Washery shall be treated through Thickener. Emergency Settling Pond shall be instructed and all storm water drains shall be connected to this settling pond.

(xvii) The requirement of electric power for the coal washery shall be approximately 11.25 MW / 1.6 MVA. The specific power consumption shall be around 4 units per tonnes of raw coal throughput. The electricity shall be sourced from Madhya Pradesh Poorve Khetra Vidhyut Viteran Company.

(xviii) It is estimated that during operation phase, 10 kg of MSW shall be generated (@0.2kg/p/d for 50 persons) while during operation phase, 20 kg of solid waste shall be generated (@0.2kg/p/d for 100 persons).

9.4.3 The EAC during deliberations noted the following:

The proposal is for Terms of Reference Setting up of Coal Washery of 0.96 MTPA/ 175 TPH capacity in 20 acre by M/s Balaji Coal Resources Private Limitedat Village Pidartali, TehsilSingrauli, District Singrauli (Madhya Pradesh)

No Forest land was involved in the project area.

Ghaghawa Nadi is flowing at a distance of 0.1 km in eastern direction.

The proposed project falls under Item 2(a) of the Schedule vide EIA notification 2006 and further amendment therein involving preparation of Environment Impact Assessment study and Environment Management Plan under Category B1. However general condition is applicable to this project as the Critically Polluted Area of Singrauli is only 1.5 km from the site and inter-state boundary is at a distance of 4.5 km from the site and hence shall be appraised at the Central Level.

EAC noted Ministry's OM vide F.No. 22-35/2020-IA.III dated 18th November, 2020 regarding Streamlining the processess of granting Environmental Clearances as mentioned below:

All projects, placed in the agenda, should be considered by the EAC notwithstanding the non-attendance of the Project Proponent or his consultant in the EAC meeting to make a presentation. A clarification may however be sought from the consultant regarding reason for not attending the meeting.

In line with above, It was noted that the neither PP nor his representative was present to make presentation on their proposal before the EAC. Therefore, the EAC decided to deliberate on the proposal based on documents and information submitted by the PP on Parivesh Portal and it was observed that the proposal is lacking information regarding orientation of plant layout, other alternative sites, distance of source of coal, proposed location of baseline monitoring stations, alternative sources of water etc

9.4.4 *The EAC, after deliberation observed that the proposal submitted by PP could not be appraised properly in absence of project proponent. Project Proponent without any prior information only submitted the document and presentation through email. Therefore very limited*

discussion took place based on document submitted by PP. It is further observed that area proposed for the plant seems to be less since atleast 40% of plantation is required for Singrauli (CPA) and therefore requires changes in land use pattern and increase in area. Also, the proposal is only 100 mts away from Ghaghawa river, PP may relook the options of other sites and washery plant orientation needs to be discussed with project proponent. The location of baseline monitoring proposed in the presentation did not represent upwind and downwind monitoring in overall 10 km buffer area. EAC desired, PP should provide commitment for not using ground water since surface water/river and mine water is present near to the project site.

*The project was **returned** on above lines with notice to consultant for attending the meeting without any prior intimation.*

The meeting ended with thanks to the Chair.

Annexure-I

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

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

(a) Statutory compliance

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

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

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

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

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

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

(b) Air quality monitoring and preservation

(i) Continuous ambient air quality monitoring stations as prescribed in the statue be established in the core zone as well as in the buffer zone for monitoring of pollutants, namely PM_{10}, $PM_{2.5}$, SO_2 and NO_x. Location of the stations shall be decided based on the meteorological data, topographical features and environmentally and ecologically sensitive targets in consultation with the State Pollution Control Board. Online ambient air quality monitoring stations may also be installed in addition to the regular monitoring stations as per the requirement and/or in consultation with the SPCB. Monitoring of heavy metals such as Hg, As, Ni, Cd, Cr, etc to be carried out at least once in six months.

(ii) The Ambient Air Quality monitoring in the core zone shall be carried out to ensure the Coal Industry Standards notified vide GSR 742 (E) dated 25th September, 2000 and as amended from time to time by the Central Pollution Control Board. Data on ambient air quality and heavy metals such as Hg, As, Ni, Cd, Cr and other monitoring data shall be regularly reported to the Ministry/Regional Office and to the CPCB/SPCB.

(iii) Transportation of coal, to the extent permitted by road, shall be carried out by covered trucks/conveyors. Effective control measures such as regular water/mist sprinkling/rain gun etc shall be carried out in critical areas prone to air pollution (with higher values of PM_{10}/$PM_{2.5}$) such as haul road, loading/unloading and transfer points. Fugitive dust emissions from all sources shall be controlled regularly. It shall be ensured that the

Ambient Air Quality parameters conform to the norms prescribed by the Central/State Pollution Control Board.

(iv) The transportation of coal shall be carried out as per the provisions and route envisaged in the approved Mining Plan or environment monitoring plan. Transportation of the coal through the existing road passing through any village shall be avoided. In case, it is proposed to construct a 'bypass' road, it should be so constructed so that the impact of sound, dust and accidents could be appropriately mitigated.

(v) Vehicular emissions shall be kept under control and regularly monitored. All the vehicles engaged in mining and allied activities shall operate only after obtaining 'PUC' certificate from the authorized pollution testing centres.

(vi) Coal stock pile/crusher/feeder and breaker material transfer points shall invariably be provided with dust suppression system. Belt-conveyors shall be fully covered to avoid air borne dust. Side cladding all along the conveyor gantry should be made to avoid air borne dust. Drills shall be wet operated or fitted with dust extractors.

(vii) Coal handling plant shall be operated with effective control measures w.r.t. various environmental parameters. Environmental friendly sustainable technology should be implemented for mitigating such parameters.

(c) Water quality monitoring and preservation

(i) The effluent discharge (mine waste water, workshop effluent) shall be monitored in terms of the parameters notified under the Water Act, 1974 Coal Industry Standards vide GSR 742 (E) dated 25th September, 2000 and as amended from time to time by the Central Pollution Control Board.

(ii) The monitoring data shall be uploaded on the company's website and displayed at the project site at a suitable location. The circular No.J-20012/1/2006-lA.11 (M) dated 27th May, 2009 issued by Ministry of Environment, Forest and Climate Change shall also be referred in this regard for its compliance.

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

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

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

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

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

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

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

(ix) The water pumped out from the mine, after siltation, shall be utilized for industrial purpose viz. watering the mine area, roads, green belt development etc. The drains shall be regularly desilted particularly after monsoon and maintained properly.

(x) The surface drainage plan including surface water conservation plan for the area of influence affected by the said mining operations, considering the presence of river/rivulet/pond/lake etc, shall be prepared and implemented by the project proponent. The surface drainage plan and/or any diversion of natural water courses shall be as per the approved Mining Plan/EIA/EMP report and with due approval of the concerned State/GoI Authority. The construction of embankment to prevent any danger against inrush of surface water into the mine should be as per the approved Mining Plan and as per the permission of DGMS or any other authority as prescribed by the law.

(xi) The project proponent shall take all precautionary measures to ensure riverine/riparian ecosystem in and around the coal mine up to a distance of 5 km. A rivarine/riparian ecosystem conservation and management plan should be prepared and implemented in consultation with the irrigation / water resource department in the state government.

(d) Noise and Vibration monitoring and prevention

(i) Adequate measures shall be taken for control of noise levels as per Noise Pollution Rules, 2016 in the work environment. Workers engaged in blasting and drilling operations, operation of HEMM, etc shall be provided with personal protective equipments (PPE) like ear plugs/muffs in conformity with the prescribed norms and guidelines in this regard. Adequate awareness programme for users to be conducted. Progress in usage of such accessories to be monitored.

(ii) Controlled blasting techniques shall be practiced in order to mitigate ground vibrations, fly rocks, noise and air blast etc., as per the guidelines prescribed by the DGMS.

(i) The noise level survey shall be carried out as per the prescribed guidelines to assess noise exposure of the workmen at vulnerable points in the mine premises, and report in this regard shall be submitted to the Ministry/RO on six-monthly basis.

(e) Mining Plan

(i) Mining shall be carried out under strict adherence to provisions of the Mines Act 1952 and subordinate legislations made there-under as applicable.

(ii) Mining shall be carried out as per the approved mining plan(including Mine Closure Plan) abiding by mining laws related to coal mining and the relevant circulars issued by Directorate General Mines Safety (DGMS).

(iii) No mining shall be carried out in forest land without obtaining Forestry Clearance as per Forest (Conservation) Act, 1980.

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

(f) Land reclamation

(i) Digital Survey of entire lease hold area/core zone using Satellite Remote Sensing survey shall be carried out at least once in three years for monitoring land use pattern and report in 1:50,000 scale or as notified by Ministry of Environment, Forest and Climate Change(MOEFCC) from time to time shall be submitted to MOEFCC/Regional Office (RO).

(ii) The final mine void depth should preferably be as per the approved Mine Closure Plan, and in case it exceeds 40 m, adequate engineering interventions shall be provided for sustenance of aquatic life therein. The remaining area shall be backfilled and covered with thick and alive top soil. Post-mining land be rendered usable for agricultural/forestry purposes and shall be diverted. Further action will be treated as specified in the guidelines for Preparation of Mine Closure Plan issued by the Ministry of Coal dated 27th August, 2009 and subsequent amendments.

(iii) The entire excavated area, backfilling, external OB dumping (including top soil) and afforestation plan shall be in conformity with the "during mining"/"post mining" land-use pattern, which is an integral part of the approved Mining Plan and the EIA/EMP submitted to this Ministry. Progressive compliance status vis-a-vis the post mining land use pattern shall be submitted to the MOEFCC/RO.

(iv) Fly ash shall be used for external dump of overburden, backfilling or stowing of mine as per provisions contained in clause (i) and (ii) of subparagraph (8) of fly ash notification issued vide SO 2804 (E) dated 3rd November, 2009 as amended from time to time. Efforts shall be made to utilize gypsum generated from Flue Gas Desulfurization (FGD), if any, along with fly ash for external dump of overburden, backfilling of mines. Compliance report shall be submitted to Regional Office of MoEF&CC, CPCB and SPCB.

(v) Further, it may be ensured that as per the time schedule specified in mine closure plan it should remain live till the point of utilization. The topsoil shall temporarily be stored at earmarked site(s) only and shall not be kept unutilized. The top soil shall be used for land reclamation and plantation purposes. Active OB dumps shall be stabilised with native grass species to prevent erosion and surface run off. The other overburden dumps shall be vegetated with native flora species. The excavated area shall be backfilled and afforested in line with the approved Mine Closure Plan. Monitoring and management of rehabilitated areas shall continue until the vegetation becomes self-sustaining. Compliance status shall be submitted to the Ministry of Environment, Forest and Climate Change/ Regional Office.

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

(g) Green Belt

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

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

(h) Public hearing and Human health issues

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

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

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

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

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

(i) Corporate Environment Responsibility

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

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

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

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

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

(j) Miscellaneous

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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Annexure-II

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

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

I. Statutory compliance:

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

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

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

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

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

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

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

II. Air quality monitoring and preservation

i. Adequate ambient air quality monitoring stations shall be established in the core zone as well as in the buffer zone for monitoring of pollutants, namely particulates, SO_2 and NO_x. Location of the stations shall be decided based on the meteorological data, topographical features and environmentally and ecologically sensitive receptors in consultation with the State Pollution Control Board. Monitoring of heavy metals such as Hg, As, Ni, Cd, Cr, etc. to be carried out at least once in six months. Online ambient air quality monitoring station/stations may also be installed in addition to the regular air monitoring stations as per the requirement and/or in consultation with the SPCB

ii. The Ambient Air Quality monitoring in the core zone shall be carried out to ensure the Coal Industry Standards notified vide GSR 742 (E) dated 25.9.2000 and as amended from time to time by the Central Pollution Control Board. Data on ambient air quality and heavy metals such as Hg, As, Ni, Cd, Cr and other monitoring data shall be regularly reported to the Ministry/Regional Office and to the CPCB/SPCB.

iii. Transportation of coal, to the extent permitted by road, shall be carried out by covered trucks/conveyors. Effective control measures such as regular water sprinkling/rain gun/ mist sprinkling etc., shall be carried out in critical areas prone to air pollution with higher

level of particulate matter all through the coal transport roads, loading/unloading and transfer points. Fugitive dust emissions from all sources shall be controlled regularly. It shall be ensured that the ambient air quality parameters conform to the norms prescribed by the Central/State Pollution Control Board.

iv. Major approach roads shall be black topped and properly maintained.

v. The transportation of coal shall be carried out as per the provisions and route proposed in the approved mining plan. Transportation of the coal through the existing road passing through any village shall be avoided. In case, it is proposed to construct a 'bypass' road, it should be so constructed that the impact of sound, dust and accidents could be appropriately mitigated.

vi. Vehicular emissions shall be kept under control and regularly monitored. All the vehicles engaged in mining and allied activities shall operate only after obtaining 'PUC' certificate from the authorized pollution testing centres.

vii. Coal stock pile/crusher/feeder and breaker material transfer points shall invariably be provided with dust suppression system. Belt-conveyors shall be fully covered to avoid air borne dust. Side cladding all along the conveyor gantry should be made to avoid air borne dust. Drills shall be wet operated or fitted with dust extractors.

viii. Coal handling plant shall be operated with effective control measures w.r.t. various environmental parameters. Environmental friendly sustainable technology should be implemented for mitigating such parameters.

III. **Water quality monitoring and preservation**

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

ii. The monitoring data shall be uploaded on the company's website and displayed at the project site at a suitable location. The circular No. J-20012/1/2006-lA.11 (M) dated 27.05.2009 issued by Ministry of Environment, Forest and Climate Change shall also be referred in this regard for its compliance.

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

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

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

vi. The project proponent shall not alter major water channels around the site. Appropriate embankment shall be provided along the side of the river/nallah flowing near or adjacent to the mine. The embankment constructed along the river/nallah boundary shall be of suitable dimensions and critical patches shall be strengthened by stone pitching on the river front

side, stabilized with plantation so as to withstand the peak water pressure preventing any chance of mine inundation.

vii. Garland drains (of suitable size, gradient and length) around the critical areas i.e. mine shaft and low lying areas, shall be designed keeping at least 50% safety margin over and above the peak sudden rainfall and maximum discharge in the area adjoining the mine sites. The sump capacity shall also provide adequate retention period to allow proper settling of silt material of the surface runoff

viii. The water pumped out from the mine, after siltation, shall be utilized for industrial purpose viz. watering the mine area, roads, green belt development etc. The drains shall be regularly desilted particularly after monsoon and maintained properly.

ix. Industrial waste water from coal handling plant and mine water shall be properly collected and treated so as to conform to the standards prescribed under the Environment (Protection) Act, 1986 and the Rules made thereunder, and as amended from time to time. Oil and grease trap shall be installed before discharge of workshop effluent. Sewage treatment plant of adequate capacity shall be installed for treatment of domestic waste water.

x. Adequate groundwater recharge measures shall be taken up for augmentation of ground water. The project authorities shall meet water requirement of nearby village(s) in case the village wells go dry due to dewatering of mine.

xi. The surface drainage plan including surface water conservation plan for the area of influence affected by the said mining operations shall be prepared, considering the presence of any river/rivulet/pond/lake etc., with impact of mining activities on it, and implemented by the project proponent. The surface drainage plan and/or any diversion of natural water courses shall be as per the provisions of the approved Mining Plan/ EIA-EMP submitted to this Ministry and the same should be done with due approval of the concerned State/GoI Authority. The construction of embankment to prevent any danger against inrush of surface water into the mine should be as per the approved mining plan and as per the permission of DGMS.

xii. The project proponent shall take all precautionary measures to ensure reverian/ riparian ecosystem in and around the coal mine upto a distance of 5 km. A revarian /riparian ecosystem conservation and management plan should be prepared and implemented in consultation with the irrigation / water resource department in the state government.

IV. Noise and Vibration monitoring and prevention

i. Adequate measures shall be taken for control of noise levels below 85 dB(A) in the work environment. Workers engaged in underground mining operations, operation of HEMM, etc. shall be provided with personal protective equipments (PPE) like ear plugs/muffs in conformity with the prescribed norms/guidelines in this regard. Progress in usage of such accessories to be monitored. Adequate awareness programme for users to be conducted.

ii. The noise level survey shall be carried out as per the prescribed guidelines to assess noise exposure of the workmen at vulnerable points in the mine premises, and report in this regard shall be submitted to the Ministry/RO on six-monthly basis.

V. **Mining Plan**

i. Mining shall be carried out under strict adherence to provisions of the Mines Act 1952 and subordinate legislations made there-under as applicable.

ii. No change in mining method i.e. UG to OC, calendar programme and scope of work shall be made without obtaining prior approval of the Ministry of Environment, Forests and Climate Change (MoEFCC).

iii. Mining shall be carried out as per the approved mining plan (including mine closure plan) abiding by mining laws related to coal mining and the relevant circulars issued by Directorate General Mines Safety (DGMS).

iv. Underground work place environmental conditions shall be rendered ergonomic and air breathable with adequate illumination in conformance with DGMS standards.

v. No mining activity shall be carried out in forest land without obtaining Forestry Clearance as per Forest (Conservation) Act, 1980 and also adhering to The Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 read with provisions of Indian Forest Act, 1927.

vi. Efforts should be made to reduce energy and fuel consumption by conservation, efficiency improvements and use of renewable energy.

VI. Land reclamation

i. Digital Survey of entire lease hold area/core zone using Satellite Remote Sensing survey shall be carried out at least once in three years for monitoring land use pattern and report in 1:50,000 scale or as notified by Ministry of Environment, Forest and Climate Change(MOEFCC) from time to time shall be submitted to MOEFCC/Regional Office (RO).

ii. Post-mining land be rendered usable for agricultural/forestry purposes and shall be handed over to the respective State Government, as specified in the Guidelines for Preparation of Mine Closure Plan, issued by the Ministry of Coal dated 27th August, 2009 and subsequent amendments.

iii. Regular monitoring of subsidence movement on the surface over and around the working areas and its impact on natural drainage pattern, water bodies, vegetation, structure, roads and surroundings shall be continued till movement ceases completely. In case of observation of any high rate of subsidence beyond the limit prescribed, appropriate effective mitigation measures shall be taken to avoid loss of life and materials. Cracks should be effectively plugged in with ballast and clay soil/suitable material.

iv. Fly ash shall be used for external dump of overburden, backfilling or stowing of mine as per provisions contained in clause (i) and (ii) of subparagraph (8) of fly ash notification issued vide SO 2804 (E) dated 3rd November, 2009 as amended from time to time. Efforts shall be made to utilize gypsum generated from Flue Gas Desulfurization (FGD), if any, alongwith fly ash for external dump of overburden, backfilling or stowing of mines. Compliance report shall be submitted to Regional Office of MoEF&CC, CPCB and SPCB.

v. A separate team for subsidence monitoring and surface mitigation measures shall be constituted and continuous monitoring & implementation of mitigation measures be carried out.

vi. Thorough inspection of the mine lease area for any cracks developed at the surface due to mining activities below ground shall be carried out to prevent inrush of water in the mine.

vii. Native tree species shall be selected and planted over areas affected by subsidence.

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

VII. Green Belt

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

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

VIII. Public hearing and Human health issues

i. Adequate illumination shall be ensured in all mine locations (as per DGMS standards) and monitored.

ii. The Project Proponent shall undertake Occupational Health survey for initial and Periodical medical examination of the workers engaged in the Project and maintain records accordingly as per the provisions of the Mines Rules, 1955 and DGMS Circulars. Besides carrying out regular periodic health check-up of their workers, 20% of the workers engaged in active mining operations shall be subjected to health check-up for occupational diseases and hearing impairment, if any.

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

iv. Skill training as per safety norms specified by DGMS shall be provided to all workmen including the outsourcing employees to ensure high safety standards in mines.

v. Effective arrangement shall be made to provide and maintain at suitable points conveniently situated, a sufficient supply of drinking water for all the persons employed.

vi. Implementation of Action Plan on the issues raised during the Public Hearing shall be ensured. The Project Proponent shall undertake all the tasks as per the Action Plan submitted with budgetary provisions during the Public Hearing. Land oustees shall be compensated as per the norms laid out R&R Policy of the Company/ or the National R&R Policy/ R&R Policy of the State Government, as applicable

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

IX. **Corporate Environment Responsibility**

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

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

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

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

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

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

X. Miscellaneous

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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Annexure-III

Standard EC Conditions for Coal Washery Project

I. Statutory compliance:

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

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

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

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

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

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

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

II. Air quality monitoring and preservation

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

ii. Continuous ambient air quality monitoring stations as prescribed in the statue be established in the core zone as well as in the buffer zone for monitoring of pollutants, namely PM_{10}, $PM_{2.5}$, SO_2 and NO_x. Location of the stations shall be decided based on the meteorological data, topographical features and environmentally and ecologically sensitive targets in consultation with the State Pollution Control Board. Online ambient air quality monitoring stations may also be installed in addition to the regular monitoring stations as per the requirement and/or in consultation with the SPCB. Monitoring of heavy metals such as Hg, As, Ni, Cd, Cr, etc to be carried out at least once in six months.

iii. Transportation of coal by road shall be carried out by covered trucks/conveyors. The transportation of clean coal and rejects shall be by rail with wagon loading through silo. Effective measures such as regular water sprinkling shall be carried out in critical areas prone to air pollution and having high levels of particulates such as roads, belt conveyors,

loading/unloading and transfer points. Fugitive dust emissions from all sources shall be controlled at source. It shall be ensured that the ambient air quality parameters conform to the norms prescribed by the Central/State Pollution Control Board

iv. All approach roads shall be black topped and internal roads shall be concreted. The roads shall be regularly cleaned. Coal transportation shall be carried out by covered trucks.

v. Covered trucks shall be engaged for mineral transportation outside the washery upto the railway siding, shall be optimally loaded to avoid spillage en-route. Trucks shall be adequately maintained and emissions shall be below notified limits.

vi. Facilities for parking of trucks carrying raw material from linked mine shall be created within the unit.

vii. Vehicular emissions shall be kept under control and regularly monitored. The vehicles having 'PUC' certificate from authorized pollution testing centres shall be deployed for washery operations.

viii. Hoppers of the coal crushing unit and other washery units shall be fitted with high efficiency bag filters/mist spray water sprinkling system shall be installed and operated effectively at all times of operation to check fugitive emissions from crushing operations, transfer points of closed belt conveyor systems and from transportation roads.

ix. The raw coal, washed coal and coal wastes (rejects) shall be stacked properly at earmarked site (s) within stockyards fitted with wind breakers/shields. Adequate measures shall be taken to ensure that the stored mineral does not catch fire.

x. The temporary reject sites should appropriate planned and designed to avoid air and water pollution from such sites.

III. **Water quality monitoring and preservation**

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

ii. The monitoring data shall be uploaded on the company's website and displayed at the project site at a suitable location. The circular No. J-20012/1/2006-lA.11 (M) dated 27.05.2009 issued by Ministry of Environment, Forest and Climate Change shall also be referred in this regard for compliance.

iii. Industrial waste water shall be properly collected and treated so as to conform to the standards prescribed under the Environment (Protection) Act, 1986 and the Rules made there under, and as amended from time to time.

iv. The project proponent shall not alter major water channels around the site. Appropriate embankment shall be provided along the side of the river/nallah flowing near or adjacent to the washery. The embankment constructed along the river/nallah boundary shall be of suitable dimensions and critical patches shall be strengthened by stone pitching on the river front side stabilised with plantation so as to withstand the peak water pressure preventing any chance of inundation.

v. Heavy metal content in raw coal and washed coal shall be analysed once in a year and records maintained thereof.

vi. The rejects should preferably be utilized in FBC power plant or disposed off through sale for its gainful utilization. If the coal washery rejects are to be disposed off, it should be done in a safe and sustainable manner with adequate compaction and post closure

arrangement to avoid water pollution due to leachate from rejects and surface run of from reject dumping sites.

vii. An Integrated Surface Water Management Plan for the washery area up to its buffer zone considering the presence of any river/rivulet/pond/lake etc. with impact of coal washing activities on it, shall be prepared, submitted to MoEFCC and implemented.

viii. Waste Water shall be effectively treated and recycled completely either for washery operations or maintenance of green belt around the plant.

ix. Rainwater harvesting in the washery premises shall be implemented for conservation and augmentation of ground water resources in consultation with Central Ground Water Board.

x. No ground water shall be used for coal washing unless otherwise permitted in writing by competent authority (CGWA) or MoEFCC. The make-up water requirement of washery should not exceed 1.5 m3/tonne of raw coal.

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

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

xiii. The project proponent shall take all precautionary measures to ensure riverine/ riparian ecosystem in and around the coal mine up to a distance of 5 km. A riverine/riparian ecosystem conservation and management plan should be prepared and implemented in consultation with the irrigation / water resource department in the state government

IV. Noise and Vibration monitoring and prevention

i. The noise level survey shall be carried out as per the prescribed guidelines to assess noise exposure of the workmen at vulnerable points in the mine premises, and report in this regard shall be submitted to the Ministry/RO on six-monthly basis

ii. Adequate measures shall be taken for control of noise levels as per noise pollution Rules, 2016 in the work environment. Workers engaged in blasting and drilling operations, operation of HEMM, etc shall be provided with personal protective equipments (PPE) like ear plugs/muffs in conformity with the prescribed norms and guidelines in this regard. Adequate awareness programme for users to be conducted. Progress in usage of such accessories to be monitored.

V. Coal beneficiation

i. Coal stacking plan shall be prepared separately for raw coal, clean coal, middling and rejects.

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

VI. Green Belt

i. Three tier greenbelt comprising of a mix of native species, of minimum 30 m width shall be developed all along the washery area to check fugitive dust emissions and to render aesthetic to neighbouring stakeholders. A 3-tier green belt comprising of a mix of native species or tree species with thick leaves shall be developed along vacant areas, storage yards, loading/transfer points and also along internal roads/main approach roads.

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

VII. Public hearing and Human health issues

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

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

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

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

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

VIII. **Corporate Environment Responsibility**

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

ii. The company shall have a well laid down environmental policy duly approve by the Board of Directors. The environmental policy should prescribe for standard operating procedures to have proper checks and balances and to bring into focus any infringements/deviation/violation of the environmental / forest / wildlife norms / conditions. The company shall have defined system of reporting infringements / deviation / violation of the environmental / forest / wildlife norms / conditions and / or shareholders / stake holders. The copy of the board resolution in this regard shall be submitted to the MoEF&CC as a part of six-monthly report.

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

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

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

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

IX. Miscellaneous

i. The project proponent shall make public the environmental clearance granted for their project along with the environmental conditions and safeguards at their cost by prominently advertising it at least in two local n

ii. ewspapers of the District or State, of which one shall be in the vernacular language within seven days and in addition this shall also be displayed in the project proponent's website permanently.

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

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

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

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

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

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

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

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

xi. No change in coal beneficiation process and scope of work shall be made without obtaining prior approval of the Ministry of Environment, Forests and Climate Change (MoEFCC) with such conditions mentioned therein. No change in the maximum quantum of raw material feed per annum against the approved washery capacity shall be made

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

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

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

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

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

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

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ANNEXURE-IV

Generic ToR for coal washery

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

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

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

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

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

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

xvi. Analysis of samples indicating the following be submitted:

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

Characteristics and quantum of coal after washing.

Characteristics and quantum of coal rejects.

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

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

xix. Corporate Environment Responsibility:

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

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

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

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

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

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ANNEXURE-V

GENERIC TOR FOR AN OPENCAST COALMINE PROJECT for EC

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

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

(iii) A toposheet specifying locations of the State, District and Project site should be provided.

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

(v) Land use map (1: 50,000 scale) based on a recent satellite imagery of the study area may also be provided with explanatory note on the land use.

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

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

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

(ix) In case of any proposed diversion of nallah/canal/river, the proposed route of diversion /modification of drainage and their realignment, construction of embankment etc. should also be shown on the map as per the approval of Irrigation and flood control Department of the concerned state.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

* As a representative example

Table 2 : Stage Wise Cumulative Plantation

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

* As a representative example

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

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

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

(xxxii) Flow chart of water balance should be provided. Treatment of effluents from workshop, township, domestic wastewater, mine water discharge, etc. should be provided. Details of STP in colony and ETP in mine should be given. Recycling of water to the max. possible extent should be done.

(xxxiii) Occupational health issues. Baseline data on the health of the population in the impact zone and measures for occupational health and safety of the personnel and manpower in the mine should be given.

(xxxiv) Risk Assessment and Disaster Preparedness and Management Plan should be provided.

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

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

(xxxvii) Details of R&R. Detailed project specific R&R Plan with data on the existing socio-economic status of the population (including tribals, SC/ST, BPL families) found in the study area and broad plan for resettlement of the displaced population, site for the resettlement colony, alternate livelihood concerns/employment for the displaced people, civic and housing amenities being offered, etc and costs along with the schedule of the implementation of the R&R Plan should be given.

(xxxviii) CSR Plan along with details of villages and specific budgetary provisions (capital and recurring) for specific activities over the life of the project should be given.

(xxxix) Corporate Environment Responsibility:

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

(xl) Details on Public Hearing should cover the information relating to notices issued in the newspaper, proceedings/minutes of Public Hearing, the points raised by the general public and commitments made by the proponent and the action proposed with budgets in suitable time frame. These details should be presented in a tabular form. If the Public Hearing is in the regional language, an authenticated English Translation of the same should be provided.

(xli) In built mechanism of self-monitoring of compliance of environmental regulations should be indicated.

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

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

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

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

TOTAL ML/PROJECT AREA (ha)	TOTAL FORESTLAND (ha)	Date of FC	Extent of forestland	Balance area for which FC is yet to be obtained	Status of appl for. diversion of forestland
		If more than , provide details of each FC			

ANNEXURE -VI

GENERIC TORs FOR AN UNDERGROUND COALMINE PROJECT

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

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

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

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

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

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

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

S.N	ML/Project Land use	Area under Surface Rights(ha)	Area Under Mining Rights (ha)	Area under Both (ha)

1.	Agricultural land			
2.	Forest Land			
3.	Grazing Land			
4.	Settlements			
5.	Others (specify)			

Area under Surface Rights

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

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

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

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

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

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

(xiii) Map (1: 50, 000 scale) of the study area (core and buffer zone) showing the location of various sampling stations superimposed with location of habitats, other industries/mines, polluting sources, should be provided. The number and location of the sampling stations in

both core and buffer zones should be selected on the basis of size of lease/project area, the proposed impacts in the downwind (air)/downstream (surface water)/groundwater regime (based on flow). One station should be in the upwind/upstream/non-impact/non-polluting area as a control station. The monitoring should be as per CPCB guidelines and parameters for water testing for both ground water and surface water as per ISI standards and CPCB classification wherever applicable. Observed values should be provided along with the specified standards.

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

(xv) Study on subsidence including modeling for prediction, mitigation/prevention of subsidence, continuous monitoring measures, and safety issues should be carried out.

(xvi) Detailed water balance should be provided. The break up of water requirement as per different activities in the mining operations, including use of water for sand stowing should be given separately. Source of water for use in mine, sanction of the Competent Authority in the State Govt. and impacts vis-à-vis the competing users should be provided.

(xvii) Impact of choice of mining method, technology, selected use of machinery and impact on air quality, mineral transportation, coal handling & storage/stockyard, etc, Impact of blasting, noise and vibrations should be provided.

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

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

(xx) Details of various facilities to be provided to the workers in terms of parking, rest areas and canteen, and effluents/pollution load resulting from these activities should also be given.

(xxi) The number and efficiency of mobile/static water sprinkling system along the main mineral transportation road inside the mine, approach roads to the mine/stockyard/siding, and also the frequency of their use in impacting air quality should be provided.

(xxii) Impacts of CHP, if any on air and water quality should be given. A flow chart showing water balance along with the details of zero discharge should be provided.

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

(xxiv) Greenbelt development should be undertaken particularly around the transport route and CHP. Baseline data on the health of the population in the impact zone and measures for

occupational health and safety of the personnel and manpower for the mine should be submitted.

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

(xxvi) Details of R&R. Detailed project specific R&R Plan with data on the existing socio-economic status of the population (including tribals, SC/ST, BPL families) found in the study area and broad plan for resettlement of the displaced population, site for the resettlement colony, alternate livelihood concerns/employment for the displaced people, civic and housing amenities being offered, etc and costs along with the schedule of the implementation of the R&R Plan should be given.

(xxvii) CSR Plan along with details of villages and specific budgetary provisions (capital and recurring) for specific activities over the life of the project should be given.

(xxviii) Corporate Environment Responsibility:

a) The Company must have a well laid down Environment Policy approved by the Board of Directors.

b) The Environment Policy must prescribe for standard operating process/procedures to bring into focus any infringements/deviation/violation of the environmental or forest norms/conditions.

c) The hierarchical system or Administrative Order of the company to deal with environmental issues and for ensuring compliance with the environmental clearance conditions must be furnished.

d) To have proper checks and balances, the company should have a well laid down system of reporting of non-compliances/violations of environmental norms to the Board of Directors of the company and/or shareholders or stakeholders at large.

(xxix) Details on Public Hearing should cover the information relating to notices issued in the newspaper, proceedings/minutes of Public Hearing, the points raised by the general public and commitments made by the proponent and the action proposed with budgets in suitable time frame. These details should be presented in a tabular form. If the Public Hearing is in the regional language, an authenticated English Translation of the same should be provided.

(xxx) In built mechanism of self-monitoring of compliance of environmental regulations should be indicated.

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

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

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

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

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

		If more than one provide details of each FC			

ANNEXURE-VII

GENERIC TORs FOR AN OPENCAST-CUM-UNDERGROUND COALMINE PROJECT

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

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

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

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ANNEXURE-VIII

LIST OF PARTICIPANTS OF EAC (COAL) IN 9thMEETING OF HELD DURING 26th FEBRUARY, 2021 THROUGH VIDEO CONFERENCING

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