

MINUTES OF 22nd MEETING OF THE EXPERT APPRAISAL COMMITTEE FOR ENVIRONMENT APPRAISAL OF COAL MINING PROJECTS HELD ON 17th NOVEMBER, 2021 THROUGH VIDEO CONFERENCE.

Wednesday 17th November, 2021

Confirmation of the Minutes of 21st Meeting of the EAC (Coal) held on 27th October, 2021: The minutes of the 21st meeting of the EAC held during 27th October, 2021 was confirmed by the Chairman.

Opening Remarks of the Chairman: At the outset, the Chairman welcomed the Expert members & other participants and requested to start the proceeding as per the agenda adopted for this meeting.

Consideration of Proposals: The 22nd meeting of the Expert Appraisal Committee (EAC) for coal mining projects was held on 17th November, 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. 22.1

Expansion of Srirampur Opencast Coal Mine II from 2.50 to 3.50 MTPA by M/s The Singareni Collieries Company Limited located at Ramaraopet Village Sy. No. 369, 370, 373, 375, 387, District Mancherla (Telangana)- For Environmental Clearance-reg

[Online proposal No. IA/TG/CMIN/187387/2017; F No. J-11015/212/2007-IA.II (M)]

22.1.1 The proposal is for Environment Clearance Expansion of Expansion of Srirampur Opencast Coal Mine II from 2.50 to 3.50 MTPA by M/s The Singareni Collieries Company Limited located at Ramaraopet Village Sy. No. 369, 370, 373, 375, 387, District Mancherla (Telangana)

22.1.2 The details of the proposal, as ascertained from the proposal documents and as revealed from the discussions held during the meeting, are given as under:

- (i) The project area is covered under Survey of India Topo Sheet No. 56N/5, 56N/6, 56N/9 & 56N/10 and is bounded by the geographical coordinates ranging from Latitudes 18048'02" and 18051'18" and longitudes 79028'46" and 79031'44".
- (ii) Coal will be supplied to the Singareni Thermal Power Plant (STPP) situated at Jaipur, Mancherla District, and NTPC, Ramagundam of Telangana State and also to cement, Textiles, Paper, Railways and other Industries
- (iii) Project does not fall in the Critically Polluted Area (CPA), where the MoEF&CC's vide its OM dated 13th January, 2010 has imposed moratorium on grant of environment clearance.
- (iv) Employment generation, Permanent / Contractual employment to 437/750 persons will be

provided from the project.

- (v) The project is reported to be beneficial in terms of socio-economic and improving living standards.
- (vi) Earlier, the environment clearances to the project was obtained under EIA Notification, 2006 vide Ministry's letter No. J-11015/212/2007-IA. II(M) dated 11th July, 2008 for 2.50 MTPA in mine lease area of 707.63 ha.
- (vii) Terms of Reference granted on 02.02.2018 vide File No. J-11015/212/2017-IA. II(M).
- (viii) Total mining lease area is 1604.11 ha. Mining Plan (Including Mine Closure Plan) has been approved by the Standing Committee of MoC, GoI on 21.08.2017.
- (ix) The land usage pattern of the project is as follows:

Pre-mining land use details

Land use	Within ML Area	Outside ML Area	Total
Forest Land	276.38	0.00	276.38
Agriculture	1161.05	0.00	1161.05
Grazing	60.23	0.00	60.23
Barren	41.91	0.00	41.91
Built up area	39.15	0.00	39.15
Water bodies	20.15	0.00	20.15
Roads	5.24	0.00	5.24
Total	1604.11	0.00	1604.11

Post-Mining: Area in Ha

Sl. No.	Type	Total Area	Agriculture	Plantation	Water Body	Public/ Company Use
1	Excavation/Quarry Area:					
	(a) Backfilled Area	286.68		286.68		
	(b) Excavated Void	360.74			360.74	
		647.42		286.68	360.74	
2	Top Soil Dump including BC Soil storage dump yard	25.63	6.26	19.37		
3	External Dump	518.72		518.72		
4	Safety Zone /Rationalisation area:					
	(a) Safe barrier & drain along the Quarry	94.68	5.92			64.66
	(i) Roads					9.53
	(ii) Garland drains				9.57	
	(iii) Settling ponds				5.00	

	(b) Safe barrier & drain along the Ext dump :	183.00	159.16			
	(i) Roads					9.35
	(ii) Garland drains				10.49	
	(iii) Settling ponds				4.00	
		277.68	165.08		29.06	83.54
5	Road & Infrastructure area (Service Buildings and CHP)	13.23	13.23			
7	Embankment (Protection Bund along Godavari)	15.99		15.99		
8	Green Belt	52.00	52.00			
9	Others (Railway line)	53.44				53.44
Grand Total		1604.11	236.57	840.76	389.80	136.98

- (x) Total geological reserves reported in the mine lease area are 136.59 MT with 86.41 MT extractable reserves. Percent of extraction is 63.26%. Balance extractable reserves are 61.61 MT as on 01th April, 2021.
- (xi) 6 seams with thickness ranging from 0.18 m – 8.44 m are workable. Grade of coal is G-9, stripping ratio 9.98 Cum of OB per 1 tonne of coal, while gradient is 1 in 5.8.
- (xii) Method of mining operations envisages by Opencast method.
- (xiii) Life of mine is 17 years from 2021-22.
- (xiv) The project has one external OB dumps in an area of 518.72 ha with 90 m height and 234.59 Mm3 of OB (Hard OB 233.36 Mm3 and Topsoil 1.23 Mm3).
- (xv) The project has one Internal OB dump in total area of 286.68 ha with 505.12 Mm3 (503.67 Mm3 Hard OB & 1.45 Mm3 Top Soil) of OB is envisaged in the project.
- (xvi) Total quarry area is 647.42 ha out of which backfilling will be done in 286.68 ha while final mine void will be created in an area of 360.74 ha with a depth of 350 m. Backfilled quarry area of 286.68 ha shall be reclaimed with plantation. Final mine voids will be converted into water body
- (xvii) Transportation of coal has been proposed as from In pit to surface by Belt Conveyors, from surface to siding/loading by Belt Conveyors and from siding/loading to end users by rail.
- (xviii) Reclamation Plan in an area of 1077.33 ha, comprising of 518.72 ha of external dump, 286.68 ha of internal dump and 35.36 ha of area has also been proposed for green belt development and about 236.57 ha of land will be converted for Agriculture use.
- (xix) 276.38 ha of forest land has been reported to be involved in the project. Approval (Stage-II) under the Forest (Conservation) Act, 1980 for diversion of 113.93 ha of forest land for non-forestry purposes has been obtained vide MoEF&CC F. No.8-56/91-FC/1777/F, dt. 29th May, 2001 and F.No. 8-27/2007-FC, dt.16th June, 2009. For the balance Forest land of 162.45 ha, stage-I approval is obtained vide F.No.8-06/2019 FC, Dt.12th Mar, 2021.
- (xx) No National Parks, Wildlife Sanctuaries and Eco-Sensitive Zones have been reported with 10 km boundary of the project.
- (xxi) Wildlife conservation plan for Scheduled-I species has been prepared with and budgetary

provision of 1.20 Crores and submitted to PCCF&CWW vide Ir. No.CRP/ ENV/ A/ 534/ 399, Dt. 14.06.2021 for approval.

- (xxii) The ground water level has been reported to be varying between 2.16 m to 13.98 m during pre-monsoon and between 0.95 m to 11.15 m during post-monsoon. Total water requirement for the project is 1508 KLD.
- (xxiii) Application for obtaining the approval of central ground water authority submitted and Ground Water Clearance obtained vide Lr. No. 236/SCCL/2017, 07th September, 2018.
- (xxiv) Public hearing for the project of 3.50 MTPA a capacity in an area of 1604.11 ha was conducted on 19th September, 2018 at Pragathi Stadium, Srirampur colony under chairmanship of Joint Collector & Additional District Magistrate of Mancherial District. Major issues raised in the public hearing include the employment to local youth, compensations, infrastructure development, plantation, medical facility, water etc.
- (xxv) Consent to Operate for the existing capacity was obtained from the State PCB on 25th February, 2021 and is valid till 31st March, 2026.
- (xxvi) No River/nalla is flowing within the boundary of lease. No diversion of nallah is involved in the project.
- (xxvii) Regular monitoring of ambient air quality is being carried out on fortnightly basis. The documented report is submitted to State Pollution Control Board and also to MoEF & CC along with half yearly EC compliance report. In general, the results of ambient air quality monitoring data were found within prescribed limits except few aberrations which can be attributed the specific local conditions during the day of sampling.
- (xxviii) No court cases, violation cases are pending against the project of the PP
- (xxix) The Project does not involve violation of the EIA Notification, 2006 and amendment issued there under.
- (xxx) The coal production from the mine was started from the year 2009-10 onwards. No excess production of coal from the sanctioned capacity has been realized since the commencement of mining operations. The coal production, realized from the project, from 2009-10 onwards, is as under:

Year	EC Capacity (MTPA)	Actual Production (MTPA)	Excess production beyond the EC sanctioned capacity (MTPA)
2009-10	2.50	1.255	Nil
2010-11	2.50	1.714	Nil
2011-12	2.50	2.457	Nil
2012-13	2.50	1.909	Nil
2013-14	2.50	1.084	Nil
2014-15	2.50	2.441	Nil
2015-16	2.50	2.500	Nil
2016-17	2.50	2.004	Nil
2017-18	2.50	2.077	Nil
2018-19	2.50	2.403	Nil

2019-20	2.50	2.395	Nil
2020-21	2.50	1.683	Nil

22.1.3 The EAC during deliberations noted the followings:

- Existing Srirampur Opencast Project-II started in the year 2009-10 after MoEF&CC granted Environmental Clearance vide no. J-11015 /212 /2007-IA.II(M) dated 11th July, 2008 for a rated capacity of 2.5 Mtpa in ML area of 707.63 ha. The production was within the limit of sanctioned EC capacity of 2.5MTPA as per the past production record furnished by PP.
- Ground Water Department of Telangana State has issued a letter No. 236/SCCL/2017, 07th September, 2018, conveying PP about the recommendation of site visit report. EAC noted that there is no mention of validity in the report and also it is not clear whether it is permission or simply recommendation of report. PP needs to clarify this.
- Public consultation for the project was conducted on 19th September, 2018 at Pragathi Stadium, Srirampur colony under chairmanship of Joint Collector & Additional District Magistrate of Mancherial District. Major issues raised in the public consultation includes, land compensation, employment, infrastructure development, plantation, medical facility, water pollution problem, drainage and blasting, etc.
- Consent to Operate vide No.210522749651 for the existing capacity was obtained from the State PCB on 25th February, 2021 and is valid till 31st March, 2026.
- From topo sheet map it was also found that many overhead power line are crossing within the mine lease area though no diversion is proposed by the PP.
- It was also found that lease area and production capacity of 3.5 MTPA were not mentioned in the approval letter (Revision IIII) of the mine plan uploaded by the PP. PP to submit a copy of approved mining plan with approval letter indicating production capacity with mine area.
- Certified Compliance Report from Ministry IRO was submitted vide File No. E-File No. ENV/IRO-HYD/CCR-16/A/2021/54, Dt.31st August, 2021. As per the observation soil erosion and mud slide observed in dump area due to rain, no proper plantation at dump areas and also desiltation of garland/ catch drain have not been properly done
- River Godavari is flowing to south east boundary of lease, and external dump is located close to the river without proper toe wall or garland drain. The PP was not able to explain margin of the safety zone left and specific mitigation measured followed for its protection being dump fall under catchment area.
- The NABL certification of the laboratory conducting the monitoring and analysis was not furnished in the EIA report by the consultant.
- The socio economic study was done based on old census data without verifying the current scenario of the area and not elaborating its implementation plan through CSR
- The results of base line data collected in summer season i.e March to May, 2019 at 10 locations indicates that the maximum and minimum values of PM₁₀ are in range of 94.0 to 163.0 µg/m³, PM_{2.5} are 37.3 to 63.1 µg/m³, SO₂ in 10.3 to 16.7 µg/m³ and the NO_x are in the range of 13.4 to 18.8 µg/m³. The Projected incremental increase are projected to be 23.60 µg/m³ for PM₁₀, 5.70 µg/m³ for PM_{2.5},

0.014 $\mu\text{g}/\text{m}^3$ for SO_2 , and 0.33 $\mu\text{g}/\text{m}^3$ for NO_x . Total GLC is found to be 186.60 $\mu\text{g}/\text{m}^3$ for PM_{10} , 68.8 $\mu\text{g}/\text{m}^3$ for $\text{PM}_{2.5}$, 16.71 $\mu\text{g}/\text{m}^3$ for SO_2 , and 19.14 $\mu\text{g}/\text{m}^3$ for NO_x . The exceeded value of PM_{10} could not be explained properly PP. EAC asked PP to identify other factor responsible for higher value.

- Regarding Surface Water Quality, monitored at 06 locations, their results indicate that the maximum and minimum values of DO is in ranges of 5.8 to 6.6 mg/l, BOD found to be 3 mg/l or less except at SW-1 (Tank near Ramaraopet) where it is 3.5 mg/l. Total coliforms are within the limit of 500 MPN/100 ml and faecal coliforms are in the range of 13 to 33 MPN/100 ml and Nitrate ranged between 13.3 mg/l to 6.3 mg/l. The pH values found to be in the range 7.4 to 7.9.
- Committee noted that water samples were collected once against three-month monitoring schedule, not confirming the procedure of CPCB. EAC expressed displeasure and advised to take appropriate action against Consultant (M/s EPTRI)

22.1.4 The EAC, after deliberations noted that PP inadequately addressed the issues raised in public hearing and demands to local development. The plantation also was inadequate within mine boundaries in terms of local species and number. EAC suggested that its western and southern boundary shall be planted for tree initially. Though the application was filed for 5.4 MTPA production but EIA and EMP is prepared for 4.0 MTPA so EAC decided to consider 4.0 MTPA production capacity.

The drainage map provided in EIA/ EMP report was improper, submitted without detailing of catchment area rivulets/streams and rivers under 10 km radius of buffer zone. The catchment area of Godavari River seems to be beneath the dump area of the mine. The traffic study given in EIA / EMP report is found to incomplete without highlighting the change in V/C with its LOS.

It was also found that the Bag filter installation at CHP was not done. EAC expressed displeasure to the performance on presentation and inadequate monitoring data collected and therefore, recommended MoEF&CC to take action in form of showcause against Consultation (i.e M/s EPTRI). Finally EAC suggested consultant to conduct the base line monitoring properly and site specific impact assessment with mitigation measure with modified EIA/ EMP report

After deliberation, EAC desired compliance from PP on following observations:

- PP to re-monitor the surface water quality for water bodies within buffer zone as per the guidelines of CPCB and also conduct proper source apportionment study contributing PM_{10} in air within the buffer zone of mine.*
- PP to elaborate the anticipated environmental impacts & mitigation measures in terms of dump slide protection through toe wall as size of toe was inadequate, soil erosion, drainage collection of mine area, protection of flood plain of Godavari river, plantation, etc.*
- PP to clarify mine approval in terms lease area and production capacity of 3.5 MTPA as these were not mentioned in the approval letter (Revision III) of the mine plan uploaded by the PP. PP to submit a copy of approved mining plan with approval letter indicating production capacity*

with mine area.

- (iv) PP to clarify about recommendation given by Ground Water Department of Telangana State on ground water permission as letter conveys without validity, permission of existing mine and proposed expansion but it is simply recommendation report.
- (v) PP needs to address the issues raised in public hearing and demands to local development with adequate budgetary provision with time bound action plan.
- (vi) Many high tension power line area passing by the mine lease PP must clarify whether any diversion is proposed or not.
- (vii) PP shall submit letter from PCCF that mine does not fall under corridors of any National Park and Wildlife Sanctuary and does not involve any violation of forest area and wild sanctuary with certified map showing distance of nearest sanctuary.
- (viii) The socio –economic study to be conducted with actual survey report and a comparative assessment to be done from the census data with detailing of economic status of the study area. The quantification on the need based survey for CSR activities to be followed.
- (ix) The drainage map may be furnished with detailing of catchment area rivulets/streams and rivers coming under 10 km radius buffer zone and linked with water augmentation plan as EMP measures.
- (x) PP shall provide complete traffic study highlighting the change in V/C with its LOS and consequential air modelling should include contributing factors responsible for air PM10 within 10 km radius buffer zone
- (xi) The base line data on the health to be furnished in EIA/EMP report
- (xii) PP shall submit action plan for implementation of sand segregation plant to extract sand and aggregate (since quantity of OB is higher) to reduce agricultural land degradation.
- (xiii) PP to submit the detailed plan for tree plantation along with development of nursery with native species only with time bound manner action plan.
- (xiv) PP shall submit a video recording of the site from drone in next meeting, particularly near toe wall to Godavari side.
- (xv) The NABL certificate of the lab conducting base line data monitoring to be furnished in EIA/EMP report
- (xvi) PP to apply for star rating as per the guidelines issued by Ministry of Coal and submit the documentary proof.
- (xvii) Status report to all the non-compliance and partial compliance highlighted by Ministry's IRO shall be submitted with time bound action plan.

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

Agenda No. 22.2

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

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

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

22.2.2 The EAC during deliberations noted the following:

Earlier the project was considered in the 18th EAC meeting held during 2nd September, 2021 wherein EAC desired certain information from the PP and deferred the proposal. PP has now submitted the compliance of observation of EAC and provided additional information which are enlisted below:

S. No.	Observation of EAC	Reply by PP
1	<p>PP shall revise damage assessment and its remedial action plan for violation of over production as suggested by EAC based on following points:-</p> <p>a. Assessment due to air impact shall be revisited and submitted.</p> <p>b. The damage due to mine water abstraction shall be reworked for 2011/12 and 12/13 taking total into consideration in the absence of NOC and according to CGWA rates.</p> <p>c. Non provision /deficiency of surface water structures shall be considered and gap in provision of GB/plantation.</p> <p>d. Net profit accrual and 3% of the same shall be considered under CRAP.</p> <p>e. The activities under Remediation, NRAP, CRAP shall be of capital expenditure, measurable and specific the needs of neighborhood and completed in 3 years' time.</p>	<p>Damage assessment and its remedial action plan for violation of over production has been revised as per EAC recommendation.</p> <p>The excess concentration (maximum) of PM10 was estimated as 7.50 µg/m³ during 2011-12 and 2.50 µg/m³ during 2012-13. Total proposed compensation is ₹4759.99 Lakhs.</p> <p>The damage due to mine water abstraction has been reworked for all the violation years since 1993-94 in the absence of NOC as per CGWA rates and the compensation amount is ₹126.14 Lakhs.</p> <p>Provision for surface water structures amounting to ₹975.00 Lakh has been kept in the Remediation Plan Further, in order to ensure post-mining water availability in the area, a lagoon measuring 111.0 Ha upto a depth of 20.0 m will be made.</p> <p>Plantation has already been raised over 12.0 Ha and by the end of mining, about 298.21 Ha will be further brought under plantation by planting 477136 no. of trees with a budgetary provision of 1.0 Crore. Apart from the above provisions made</p>

	<p>f. List of activities proposed as per OM dated 30/09/20 to the requirements in PH amounting to 442 lacs shall be submitted to be completed in three years, under EMP.</p>	<p>in the EIA & EMP, an amount of ₹180.00 Lakh has been provided under the Remediation Plan for the purpose of community plantation/social forestry on lands outside ECL leasehold.</p> <p>Net profit accrual and 3% of the same has been considered under CRAP and the total amount is ₹169.83 Lakhs</p> <p>Provisions for Remediation Plan have been made under capital expenditure head. The proposed activities will cover specific needs of the neighborhoods and will be completed within 3 years. The total amount proposed under the Remediation Plan and NCRAP is ₹5183.97 Lakhs.</p> <p>List of activities proposed as per the requirements in PH amounting to ₹ 440.22 Lakhs under capital expenditure with timeline of 3 years</p>
2	PP shall provide monetary provisions for Wildlife Conservation Plan for Schedule-I species and breakup of the proposed activities submitted to the DFO.	<p>Monetary provisions for Wildlife Conservation plan is as follows:</p> <p>For activities to be taken up by PP: ₹ 218.50 lakh</p> <p>For activities to be taken up by Forest Department: ₹ 616.74 lakh</p> <p>Total: ₹ 834.24 lakh including escalation charges</p>
3	The proper location of the OB dumps along with its Longitude and Latitude to be provided by the PP with its proper restoration plan.	<p>Latitude and Longitude of OB dump along with the restoration Plan was provided by the PP.</p> <p>Presently, the overburden material is transported partly to the external dump and partly to the internal dump. External dump has an area of 18.00 Ha and accommodates a volume of 4.40 M Cu.m whereas internal dump accommodates a volume of 14.72 M Cu.m of OB</p> <p>Internal dumping of OBR shall commence from 6th year of production</p> <p>Non-coal bearing zone in the north of the proposed OCP has been envisaged for external</p>

		<p>dump. To facilitate space for external dump, one small village namely, Binodikanta is to be rehabilitated. Nunia zore flowing through the north side of the OCP also need to be diverted beyond the proposed external dump</p> <p>OB has two lifts each of 30m height and overall slope of dump will be maintained at 280 or less.</p>									
4	PP shall submit plan of action for installation of one STP and CTO of other constructed STP by March 2022.	<p>No colony exists in Mohanpur OCP. However, a residential colony is proposed with an estimated cost of ₹18.21 Crores and there is a provision of construction of STP with an estimated cost of ₹ 2.14 Crores</p> <table border="1"> <thead> <tr> <th>S. No.</th><th>Particulars</th><th>Additional Capitals in Lakhs (Year wise phasing proposed for 5 years)</th></tr> </thead> <tbody> <tr> <td>1</td><td>Colony Sewerage (including construction of STP)</td><td>214.60 (42.92 in each year)</td></tr> <tr> <td>Total</td><td></td><td>214.60</td></tr> </tbody> </table>	S. No.	Particulars	Additional Capitals in Lakhs (Year wise phasing proposed for 5 years)	1	Colony Sewerage (including construction of STP)	214.60 (42.92 in each year)	Total		214.60
S. No.	Particulars	Additional Capitals in Lakhs (Year wise phasing proposed for 5 years)									
1	Colony Sewerage (including construction of STP)	214.60 (42.92 in each year)									
Total		214.60									
5	PP shall submit a video recording of the site from drone in next meeting	A video recording of the site from drone has been done.									
6	PP shall update mine closure activity already conducted and to be pursued for final mine closure	<p>Mine closure Audit for the period from 2013-14 to 2017-18 and 2015-16 to 2019 -20 is provided by the PP.</p> <p>Final Mine Closure Plan is not required at present since the expansion of the existing mine has been proposed with a life of 12 years. Thus, a final mine closure plan will be prepared in the year 2028-29 (5 yr before the end of mine-life).</p>									
7	Plan of action and allocated fund for maintenance and services to the installed RO for 10 years and to provide pipeline with fittings to the nearby villages.	<p>2 nos. of pressure filters (Capacity 5000 GPH each) have been provided for supply of mine water for domestic purposes in the nearby villages.</p> <p>One RO plant (Capacity 5000 LPH) has been installed to cater to nearby villages.</p> <p>Work order for day to day maintenance of 5000</p>									

		GPH capacity pressure filter no. 1 and 2 at Agent's Office and Electric Substation of Mohanpur Colliery, Salanpur Area is already being worked over.
8	The details of diversion of one of streams existed in the ML prior to commencement of mining shall be submitted, considering the catchment, flow adequacy, etc.	A Feasibility Study Report on Diversion of Nunia Nallah in Mohanpur Expn. OCP (Phase-II), ECL has been prepared. Catchment Area of Nunia Nallah is 4.35 sq. km. and flow adequacy is 91.50 cumecs and total length of diverted nallah is 3400.0 m. An amount of ₹ 1030.49 lakh has been provisioned in the approved Project Report and EIA & EMP Report for this purpose.
9	PP shall submit fresh certified compliance report of EC dated 18th May, 2009 from Ministry's IRO	All conditions are fully complied as on date. Request for fresh CCR has been made on vide ECL/SLN/MHN/2021/1231 dated 16.09.2021 to RO, MoEF&CC as directed by EAC. EAC noted that earlier CCR was done vide 102-282/0EPE-01 dated 20.01.2021 and there has not been any change on ground.
10	PP shall submit NOC for Ground water extraction for 2.5 MTPA and also of previous ECs	<ul style="list-style-type: none"> • The application for grant of NoC made to State Water Investigation Department (SWID) for previous EC capacity of 1.0 MTPA on 18.11.2018. • The application was considered in the High Level Committee in its meeting held on 27.09.2021 • The HLC has stated that NoC may be approved subject to the fulfilment of groundwater seepage modelling study. • The study is being conducted. • The application for expanded EC capacity of 2.50 MTPA will be made after the grant of NoC for present application of Ground Water Abstraction for 1.0 MTY production capacity
11	PP shall recheck and re-monitor the water quality of surface water i.e. ponds, tanks and streams vicinity of the project area by other consultant (third party).	Water quality analysis for 5 surface water bodies (Upstream of Nunia Nallah, Downstream of Nunia Nallah, Pond located in Amdiha Village, Pond located in Parbatpur Village & Pond located in Binodikata Village) has been done through CIMFR-CSIR, Dhanbad.

		The parameters were found to be within the prescribed limits.																																																
12	Action plan for commitment made on the issues raised during public hearing with time line and fund allocated.	The action plan for year-wise implementation along with budgetary provision w.r.t the commitment given in the public hearing is provided.																																																
13	PP shall submit the consent letter from the panchayat for the stretch required by the villagers on actual need base survey and to provide pucca raod to them with proper budgetary implementation and time bound action of 2 years was to be followed	Consent letter for the stretch of road required for coal transportation has been given by the concerned Gram Panchayat. Year-wise implementation plan and Budgetary provision of ₹ 1200 Lakhs has been kept for construction, repair and maintenance of the road in 12 nos. of gram Panchayats in vicinity of the project.																																																
14	PP shall leave the Nunnia nallah in its natural course for 5 years until the completion of diverted channel and the diversion will only be commenced after the permission is granted by the respective authority and not on the basis of application filed. Accordingly Mine plan shall be revised to adjust the OB dump	As per the approved project report, the Nunia nallah will not be diverted till the construction of diversion channel is completed. Till such time, the natural course of the nallah will be left undisturbed. As such, no revision of the mine plan is needed. Also, the diversion will be done only after obtaining due permission of the state authority.																																																
15	The grant of EC will be considered after the initiation of credible action as an implementation mandatory procedural process	Repeated persuasion has been made to West Bengal Pollution Control Board for credible action. Again, request has been made on 16.09.2021 to the WBPCB for initiating action for violation of EC conditions.																																																
16	The total excavation including OB/IB/SB and top soil besides ROM coal shall be referred for EC.	<table><tr><th colspan="5">Summarized calendar programme of excavation</th></tr><tr><th colspan="2">Year</th><th>Coal (MT)</th><th>OB (M cu.m)</th><th>Stripping Ratio (m³/Te)</th></tr><tr><td>2020-21</td><td>1</td><td>1.00</td><td>5.00</td><td>5.00</td></tr><tr><td>2021-22</td><td>2</td><td>2.00</td><td>7.60</td><td>3.80</td></tr><tr><td>2022-23</td><td>3</td><td>2.50</td><td>7.90</td><td>3.16</td></tr><tr><td>2023-24</td><td>4</td><td>2.50</td><td>7.90</td><td>3.16</td></tr><tr><td>2024-25</td><td>5</td><td>2.50</td><td>7.90</td><td>3.16</td></tr><tr><td>2025-26</td><td>6</td><td>2.00</td><td>7.90</td><td>3.95</td></tr><tr><td>2026-27</td><td>7</td><td>2.00</td><td>8.00</td><td>4.00</td></tr></table>				Summarized calendar programme of excavation					Year		Coal (MT)	OB (M cu.m)	Stripping Ratio (m ³ /Te)	2020-21	1	1.00	5.00	5.00	2021-22	2	2.00	7.60	3.80	2022-23	3	2.50	7.90	3.16	2023-24	4	2.50	7.90	3.16	2024-25	5	2.50	7.90	3.16	2025-26	6	2.00	7.90	3.95	2026-27	7	2.00	8.00	4.00
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2027-28	8	2.00	8.00	4.00																												
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Total		23.10	86.13	3.73																												
17	Water balance for monsoon period also shall be submitted.	Water Usage diagram during Monsoon Period of Mohanpur (Expansion) OCP (2.50 MTPA) is provided by ECL with total mine discharge of 2000 m3/day Out of which 400 m3/day is pump to Filter plant for domestic use and 1600 m3/ day to the settling Tank out of this excess mine water discharge is 920 m3/day used for domestic or agricultural use.																														
18	Details of water consumption by present and proposed colony, variation in Water balance, justification for 25% water loss in STP,40% loss in ETP shall be submitted.	<p>At present no colony exists in Mohanpur OCP. As per approved PR of Mohanpur Expn. (Phase-II) OCP, the estimated water consumption for the proposed colony is 300 cum/day.</p> <p>Mine water is supplied to colony for the domestic water need.</p> <p>Variation in water balance is given below:</p> <ul style="list-style-type: none">• During non-monsoon period: peak mine discharge: 1200 m3/day; usage (domestic and industrial): 1080 m3/day; remaining excess water: 120 m3/day supplied for agricultural purpose after sedimentation• During monsoon period: peak mine discharge: 2000 m3 /day; usage (domestic and industrial): 1080 m3/day; remaining excess water: 920 m3 /day supplied for agricultural purpose/discharged in local nallah after sedimentation <p>Justification for 25% water loss in STP: 25% of the domestic raw water is used before going to STP. As per the manual of CPHEEO, 20% water is used for various purposes like washing dishes, laundry, and flushing the toilet. Another 5% can be added due to other process & loss.</p> <p>Justification for 40% water loss in ETP:</p>																														

		<p>Due to typographical error, 40% loss was written in place of upto 40%. So upto 40% loss is required to be mentioned in the water balance. The following factors are the major contributors for the estimated loss of upto 40% during HEMM Washing & other Workshop activities.</p> <ol style="list-style-type: none"> 1) Evaporation and infiltration losses before and after ETP. 2) Leakage from drainage system. 3) Water loss in different treatment units of ETP.
19	Brief details of application for NOC from State water authority and measures proposed for treatment and GW charging systems shall be submitted apart from the status of NOC.	<p>Measures proposed for Ground Water recharge:</p> <ul style="list-style-type: none"> • Rain water along with surplus mine pumping water will be discharged into nallah/tank/pond after passing through the settling tank. Necessary earthen check dams will be made in the nallah for recharging ground water aquifer. Rainwater Harvesting and artificial recharge will also take place through final void of opencast mine for increasing ground water potential and check water level lowering. • Roof Top rainwater harvesting structure will be constructed in the administrative building of the project/mine. • Utilization of treated mine water discharge by both industry and local people in the mine influence area. • Water lagoon of around 20 m depth in an area of 111.0 Ha is also proposed at the end of mining which will act as a reservoir and help in improving the water levels. • Any other measures recommended by the regulatory agencies will be implemented.
20	Details of GB/Plantation in the safety zone and other areas shall be submitted.	The total plantation at the end of mining as per approved EIA/EMP report is 298.21 Ha out of which the green belt plantation in safety zone is to be developed over 100.21 Ha. It is seen that 17600 trees are planted as per present land use and as per proposed mining land use 477136 trees will be planted.
21	The mitigation/control measures	The following steps are being taken to protect

	presently adopted for the Nallah passing through and also abetting Dump Toe shall be briefed.	<p>Nunia Nallah passing through the project:</p> <ol style="list-style-type: none"> 1. Creation and maintenance of retaining/toe wall surrounding OB edge. 2. Green belt creation along the bank of the nallah. 3. Routine analysis of mine water before discharging in nallah after passing through sedimentation tank.
22	Action plan for traffic decongestion in MDR where the LOS appears to be in C/D level as per IRC norms. (69.62% occupied as per EIA)	<ul style="list-style-type: none"> • A new dedicated transport route for coal from mine to railway siding has already been completed. Therefore, there will be no impact of increased transportation due to expansion of this project. • Further, by FY 2027-28, it is also proposed to transport coal by conveyor to a new proposed railway siding at Itapara, which is 2.5 kms away. • Thus, there will be no decongestion of the existing transport route by implementation of • Mohanpur Expansion Project as we are adopting the newly constructed dedicated route and further this road transportation will also be completely be stopped by switching over to conveyor system by 2027-28
23	PP shall examine the area occupied or proposed for external dump by increasing the height by obtaining necessary approval so that the area saved can be utilised for plantations.	<p>The feasibility of this proposal has been explored and it is observed that safety will be compromised by raising the height of the OB dump beyond 60 m proposed in the project report / mining plan.</p> <p>By raising another 30m lift, external dump area of Mohanpur OCP can be reduced by maximum 8.0 Ha. But it will create several issues related to the safety of the dump as well as surroundings.</p> <ol style="list-style-type: none"> 1. With 90m height, the dump may not be safe at 28degree slope. With a milder slope, the advantage of reduction of land area will be further neutralised. 2. As the external dump is proposed to be re-handled at the end of mining operation, a higher dump height will pose greater danger and difficulties in the process. 3. Another danger with increasing dump height is

		<p>heaving of surrounding land zone.</p> <p>4. More dust pollution will be caused by higher wind speed at higher altitude thus, impacting a larger area.</p> <p>5. Moreover, a greater dump height will have a negative impact on the aesthetics of the area.</p> <p>It is also pertinent to note that most of the area under the external dumping (116.12 Ha) will be eventually freed by re-handling of the OB at the end of mining and the so released area will be planted upon.</p>
24	PP shall submit past production since 1994/or from the start of mining activity. Production figures shall be vetted from State Geological Department or with Consent to Operate.	Vetted Past production was submitted by the PP. PP vide its letter dated 20th September, 2021 and 9 th October, 2021 has requested Chief Mining Officer, Asansol, West Bengal. However, information has not been vetted yet. PP has provided the past production from their own records.
25	PP shall submit past production since 1994/or from the start of mining activity. Production figures shall be vetted from State Geological Department or with Consent to Operate.	Committee constituted vide Office Order No. ECL/SLN/HN/2021/1215 dated 14.09.2021 has carried out actual survey and has reported that the claims made regarding damage to houses is not true. Report along with Blasting and Vibration Study was carried out
26	Compliance of all the non-compliance and partial compliance highlighted by Ministry's IRO shall be submitted with action plan to complete within 2 years.	ATR submitted by PP in Annexure IX
27	Clarity regarding mine lease area/project area and mining lease/Letter of Intent with visible total area shall be submitted.	PP submitted the document regarding renewal of mining lease of coal from Ministry of Coal vide its letter dated 10th August, 2004 ie permission under section 31 of the Mine and Minerals (Development and Regulation) Act, 1957. This include the name of Manoharpur Block at Sr. No. 4 in Salanpur Area.
28	Status of Court Case pending against the project in High Court with its latest order.	No cases pending

- PP submitted Revised estimate for diversion of Nunia Nallah during the course of mining: The estimate has been revised based on the current pricing as per SOR 18 and the same has been calculated as ₹26.38 Crores. Design parameters are as under:

S. N.	Particulars	Unit	Qty.
1	Depth	m	2
2	Top width	m	24
3	Bottom width	m	16
4	C.S. Area	sqm	40
5	Length	m	3400
6	Volume	cum	136000
7	Wetted Perimeter	m	25

The brief provisional estimate is tabulated below:

S. N.	Particulars	Unit	Qty.	SOR 18 (in ₹)	Amount (₹ Thousand)	Remarks (as per Clause)
1	Earth work in cutting all type of soil mechanically	cum	136000.00	158.21	21516.56	2.6.1
2	Extra for Additional Lift of 1.5 m	cum	136000.00	78.65	10696.40	2.26.1
3	PCC mm	cum	8500.00	5906.08	50201.68	4.1.3
4	RCC Lining	cum	12750.00	6714.88	85614.72	5.1.2
5	Reinf.	kg	765000.00	72.65	55577.25	5.22.6
	Total cost excl. GST				223606.61	
	GST @ 18% on above	=			40249.19	
	Total cost incl. GST				263855.80	

- The detailed DPR will be prepared by May'22 and subsequent to which approval from the state govt. will be obtained before actual diversion. However, an application in this regard has already been made to Secretary, Department of Water Resources, W.B
- a) Status of NOC for extraction of groundwater from State Water Investigation Directorate (SWID), W.B **“that approval (but not as “provisional”) may be given against individual dewatering (pumping) points** subject to. The positive review of hydrogeological reports for the influence area of interests (weathered and fractured zones separately) for 13 OCM and 59 UG mines.
- b) Theoretical establishment of Power (HP)-Discharge (Q) relationship for individual dewatering pumps.
- c) EIA with futuristic approach showing no adverse environmental impact (e.g., land slide and land subsidence etc.) based on groundwater seepage flow modeling for such a large scale dewatering activity in 13 OCP and 59 UG mines.”

- The study is being undertaken by ECL through an accredited agency and the groundwater seepage flow modeling study will be completed by March'22
- Baseline data for ambient air quality was generated for post-monsoon season (Oct'19 –Jan'20) by M/s ABC TechnoLabs India Pvt. Ltd
- Mine Plan (Recast Project Report of Mohanpur Expansion-Phase II) has been approved by M/s CIL Board in its Minutes of Board Meeting held on 11th November, 2020 for 2.5 MTPA.
- There are no Wild Life Sanctuary (WLS), National Parks (NP), Protected Area (PA), Bio-Sphere Reserves (BSR), Tiger Reserves (TR) and Elephant Reserves (ER) within 10 kms of the project boundary (core and buffer zones). Jamuria and Shirishdanga Protected Forest are situated in North–East from the project boundary at a distance of 6.5 Kms. Ajoy River is flowing 5 km in the north from the project boundary

22.2.3 The EAC, after detailed deliberation observed the proposal is for Environment Clearance applied for violation category under Ministry's Notification dated 14th March, 2017. PP had applied during the window period of six months as per notifications dated 14th March, 2017. Accordingly, EIA/EMP including damage assessment and its remediation plan and Natural and Community Resource Augmentation Plan has been prepared and further revised after observation of EAC during its consideration in previous meeting, for expansion as well as reported violation in years from 2011 to 12 and 2012 -13 (excess production of 0.39 MTPA) and 0.7 MTPA respectively beyond EC limits (1.0 MTPA). EAC recommended for total amount of Rs 5183.97 lakhs towards Remediation plan and Natural and Community Resource Augmentation plan to be spent within a span of three years. Further, cost/budget of diversion of Nunnia stream has revised by PP to Rs. 26.38 Crores, however prior approval from State Water Resource or Irrigation Department has to be taken before diversion. PP has not yet obtained NOC for ground water extraction from State Water Investigation Directorate (SWID) for previous production also, however PP has now considered it in Remediation plan. EAC desired that PP shall obtain groundwater permission for expansion capacity and also concerned SPCB shall grant CTO only after submissions of NOC from CGWA. It was also observed that no credible action has been taken by State Government against the violation of over production by project proponent.

Based on information provided by Project proponent (EIA/EMP report, PH issues, Form 2, Additional information, Annexures etc) and its reply of earlier observations, the Committee recommended the proposal for grant of Environment Clearance to Expansion of Mohanpur OCP (Phase –II) mine from 1.0 MTPA to 2.5 MTPA with increase in Project area from 164.91 Ha to 415.71 Ha of M/s Eastern Coalfields Ltd located in Village Lalganj, District Paschim Bardhaman (West Bengal), under the provisions of EIA Notification, 2006 and its amendments therein with following specific condition in addition to all standard EC conditions for such projects and for environmental safeguards:

- (i) An amount of Rs 5183.97 lakhs has been worked out towards Remediation plan and Natural and Community Resource Augmentation plan to be spent within a span of three years. The details are given below:

A. Remediation Plan & Budgetary Provisions (in ₹ Lakhs)

Sl. No.	Component	Activity Proposed	Year 1	Year 2	Year 3	Total	Remarks
1	Air & Noise Environment	Avenue Plantation and maintenance in subsequent years along transportation road and other village roads adjacent to project boundary of Mohanpur Expansion OCP	35.00	-	-	35.00	
a		Avenue plantation along dedicated coal transport route (creation and maintenance)	35.00	-	-	35.00	7 km avenue plantation
2		Construction, repairing and Maintenance of PCC roads (3.75 m wide)	200.00	600.00	400.00	1200.00	
a		Construction, repairing and Maintenance of PCC roads in Shyamdihi Gram Panchayat (3.75 m wide village road)		50.00	50.00	100.0	Construction of 1600 mt new road and repairing of 500 mt road
b		Construction, repairing and Maintenance of PCC roads in Itapara Gram Panchayat (3.75 m wide village road)	50.00	50.00		100.0	Construction of 1200 mt new road and repairing of 1000 mt road
c		Construction, repairing and Maintenance of PCC roads Bolkunda Fulberia Gram Panchayat (3.75 m wide village road)	50.00	50.00		100.0	Construction of 1400 mt new road and repairing of 750 mt road
d		Construction, repairing and Maintenance of PCC roads in Jamgram Gram Panchayat (3.75 m wide	50.00	50.00		100.0	Construction of 1000 mt new road and repairing of 1250 mt road

Sl. No.	Component	Activity Proposed	Year 1	Year 2	Year 3	Total	Remarks
		village road)					
e		Construction, repairing and Maintenance of PCC roads in Kollya Gram Panchayat (3.75 m wide village road)	50.00	50.00		100.0	Construction of 1600 mt new road and repairing of 500 mt road
f		Construction, repairing and Maintenance of PCC roads in Domohani Gram Panchayat (3.75 m wide village road)		50.00	50.00	100.0	Construction of 1260 mt new road and repairing of 925 mt road
g		Construction, repairing and Maintenance of PCC roads in Gourangdi Gram Panchayat (3.75 m wide village road)		50.00	50.00	100.0	Construction of 1320 mt new road and repairing of 850 mt road
h		Construction, repairing and Maintenance of PCC roads in Achra Gram Panchayat (3.75 m wide village road)		50.00	50.00	100.0	Construction of 1400 mt new road and repairing of 750 mt road
i		Construction, repairing and Maintenance of PCC roads in Dendua Gram Panchayat (3.75 m wide village road)		50.00	50.00	100.0	Construction of 1200 mt new road and repairing of 1000 mt road
j		Construction, repairing and Maintenance of PCC roads in Basudevpur Jemari Gram Panchayat (3.75 m wide village road)		50.00	50.00	100.0	Construction of 1460 mt new road and repairing of 675 mt road
k		Construction, repairing and Maintenance of PCC roads in Nuni Gram Panchayat (3.75 m wide village road)		50.00	50.00	100.0	Construction of 600 mt new road and repairing of 1750 mt road
l		Construction, repairing and Maintenance of PCC		50.00	50.00	100.0	Construction of 1800 mt new road

Sl. No.	Component	Activity Proposed	Year 1	Year 2	Year 3	Total	Remarks
		roads in Panchgachiya Gram Panchayat (3.75 m wide village road)					and repairing of 250 mt road
Total Air Environment (A)			235.00	600.00	400.00	1235.00	
3	Water Environment	Development and deepening of ponds for local villagers	170.00	260.00	435.00	865.0	
a		Development and deepening of ponds in Shyamdihi Gram Panchayat (03 nos.)		40.00	50.00	90.00	30000 cum excavation and development of pond with bathing ghat, embankment, protection of banks, lighting arrangement
b		Development and deepening of ponds in Itapara Gram Panchayat (03 nos.)		50.00	50.00	100.0	34000 cum excavation and development of pond with bathing ghat, embankment, protection of banks, lighting arrangement
c		Development and deepening of ponds Bolkunda Fulberia Gram Panchayat (03 nos.)	40.00	50.00		90.00	30000 cum excavation and development of pond with bathing ghat, embankment, protection of banks, lighting arrangement
d		Development and deepening of ponds in Jamgram Gram Panchayat	40.00		50.00	90.00	30000 cum excavation and development of

Sl. No.	Component	Activity Proposed	Year 1	Year 2	Year 3	Total	Remarks
		(03 nos.)					pond with bathing ghat, embankment, protection of banks, lighting arrangement
e		Development and deepening of ponds in Kollya Gram Panchayat (03 nos.)	90.00			90.00	30000 cum excavation and development of pond with bathing ghat, embankment, protection of banks, lighting arrangement
f		Development and deepening of ponds in Domohani Gram Panchayat (01 no.)			35.00	35.00	10000 cum excavation and development of pond with bathing ghat, embankment, protection of banks, lighting arrangement
g		Development and deepening of ponds in Gourangdi Gram Panchayat (02 nos.)			50.00	50.00	17000 cum excavation and development of pond with bathing ghat, embankment, protection of banks, lighting arrangement
h		Development and deepening of ponds in Achra Gram Panchayat (03 nos.)		40.00	50.00	90.00	30000 cum excavation and development of pond with bathing ghat,

Sl. No.	Component	Activity Proposed	Year 1	Year 2	Year 3	Total	Remarks
							embankment, protection of banks, lighting arrangement
i		Development and deepening of ponds in Dendua Gram Panchayat (03 nos.)		40.00	50.00	90.00	30000 cum excavation and development of pond with bathing ghat, embankment, protection of banks, lighting arrangement
j		Development and deepening of ponds in Basudevpur Jemari Gram Panchayat (03 nos.)		40.00	50.00	90.00	30000 cum excavation and development of pond with bathing ghat, embankment, protection of banks, lighting arrangement
k		Development and deepening of ponds in Rupnarayanpur Gram Panchayat (02 nos.)			50.00	50.00	17000 cum excavation and development of pond with bathing ghat, embankment, protection of banks, lighting arrangement
4		Submersible rig bore well with water tank and pipeline for supply of drinking water in Bolkunda Fulberia, Itapara, Shyamdihi, Achra, Dendua, Rupnarayanpur,	60.00	60.00	60.00	180.00	Total 30 units , Per unit items - Boring depth- 250 mt, water tank- 1000lit, Submersible pump- 2hp, pump

Sl. No.	Component	Activity Proposed	Year 1	Year 2	Year 3	Total	Remarks
		Alladih, Basudevur Jemehari, Jamgram, Nuni, Kollya, Salanpur Gram panchayats					house, Pipeline 150mt
Total Water Environment (B)			230.00	320.00	495.00	1045.00	
5	Ecology	Rural / Urban Plantation	10.00	35.00	35.00	80.00	
a		Orchard / bamboo plantation (creation and maintenance) in and around Bolkunda-Fulberia Gram Panchayat		5.00	5.00	10.00	2 ha Plantation, fencing, irrigation, fertiliser and maintenance
b		Orchard / bamboo plantation (creation and maintenance) in and around Dendua Gram Panchayat	-	10.00	10.00	20.00	4 ha Plantation, fencing, irrigation, fertiliser and maintenance
c		Orchard / bamboo plantation (creation and maintenance) in and around Kollya Gram Panchayat	-	10.00	10.00	20.00	4 ha Plantation, fencing, irrigation, fertiliser and maintenance
d		Orchard / bamboo plantation (creation and maintenance) in and around Jitpur Uttarampur Gram Panchayat	10.00			10.00	2 ha Plantation, fencing, irrigation, fertiliser and maintenance
e		Orchard / bamboo plantation (creation and maintenance) in and around Alladih Gram Panchayat		10.00	10.00	20.00	4 ha Plantation, fencing, irrigation, fertiliser and maintenance
6		Procurement of plant sapling for distribution to nearby villagers (Parbbatpur, Amdiha, Baliapur, Shyamdiha etc.) for planting in the area	1.00	1.00	1.00	3.00	6000 fruit bearing plant sapling distribution

Sl. No .	Component	Activity Proposed	Year 1	Year 2	Year 3	Total	Remarks
7		Development and maintenance of park in Salanpur Block		50.00		50.00	4 ha land preparation, fencing, plantation, lighting, irrigation , maintenance of park
Total Ecology (C)			11.00	86.00	36.00	133.00	
8	Socio-economic activity	Construction and development of Community hall	200.00	500.00	400.00	1100.00	
a		Construction of community hall in Shyamdihi Gram Panchayat	-	100.00	-	100.00	Minimum 500 sqmt plinth area community hall with all facilities such as boundary wall, toilets, lighting, water etc (2 nos)
b		Construction of community hall in Itapara Gram Panchayat		100.00		100.00	Minimum 500 sqmt plinth area community hall with all facilities such as boundary wall, toilets, lighting, water etc (2 nos)
c		Construction of community hall in Bolkunda Fulberia Gram Panchayat	100.00			100.00	Minimum 500 sqmt plinth area community hall with all facilities such as boundary wall, toilets, lighting, water etc (2 nos)
d		Construction of community hall in	100.00			100.00	Minimum 500 sqmt plinth area

Sl. No .	Component	Activity Proposed	Year 1	Year 2	Year 3	Total	Remarks
		Jamgram Gram Panchayat					community hall with all facilities such as boundary wall, toilets, lighting, water etc (2 nos)
e		Construction of community hall in Kollya Gram Panchayat			100.00	100.0	Minimum 500 sqmt plinth area community hall with all facilities such as boundary wall, toilets, lighting, water etc (2 nos)
f		Construction of community hall in Achra Gram Panchayat			100.00	100.00	Minimum 500 sqmt plinth area community hall with all facilities such as boundary wall, toilets, lighting, water etc (2 nos)
g		Construction of community hall in Dendua Gram Panchayat		100.00		100.0	Minimum 500 sqmt plinth area community hall with all facilities such as boundary wall, toilets, lighting, water etc (2 nos)
h		Construction of community hall in Salanpur Gram Panchayat		100.00		100.0	Minimum 500 sqmt plinth area community hall with all facilities such as boundary wall, toilets, lighting, water etc (2 nos)

Sl. No.	Component	Activity Proposed	Year 1	Year 2	Year 3	Total	Remarks
i		Construction of community hall in Panchgachiya Gram Panchayat			100.00	100.0	Minimum 500 sqmt plinth area community hall with all facilities such as boundary wall, toilets, lighting, water etc (2 nos)
j		Construction of community hall in Nuni Gram Panchayat			100.00	100.0	Minimum 500 sqmt plinth area community hall with all facilities such as boundary wall, toilets, lighting, water etc (2 nos)
k		Construction of community hall in Basudevpur Jemari Gram Panchayat		100.00		100.0	Minimum 500 sqmt plinth area community hall with all facilities such as boundary wall, toilets, lighting, water etc (2 nos)
9		Construction of Dining shed for school in nearby villages	75.00	76.08	0.00	151.08	
a		Dining shed for Panchgachiya girls school	35.00	-	-	35.00	Minimum 100 sqmt area with water pipeline and handwashing facilities at School (01 no.)
b		Dining Shed for Domohani Girls School	40.00	-	-	40.00	Minimum 100 sqmt area with water pipeline and handwashing facilities at

Sl. No.	Component	Activity Proposed	Year 1	Year 2	Year 3	Total	Remarks
							School (01 no.)
c		Dining Shed for Domohani Boys School		36.08		36.08	Minimum 100 sqmt area with water pipeline and handwashing facilities at School (01 no.)
d		Dining Shed for Panchgachiya boys School		40.00		40.00	Minimum 100 sqmt area with water pipeline and handwashing facilities at School (01 no.)
10		Construction of SHG Training Center at Salanpur Block	-	-	30.00	30.00	Minimum 150 sqmt area building (01 no.)
11		Installation of High Mast Light at nearby Gram Panchayats	-	100.00	-	100.0	25 units of high mast lights at different location of local villages
12		Awareness programs on Environmental protection	1.90	1.90	1.90	5.70	6 programmes, yearly 2 programme at local schools
13		Additional skill (vocational) development training for unemployed youth	50.00			50.00	Multiskilling of local youth (electrical, plumbing, welding and solar) 30 local youths with Govt Training institute
14		Health Infrastructure of Kelejora Block Primary Health Centre, Barabani Block	20.00			20.00	Power backup facility, medical instruments, labor room facilities, water purifier and repairing/renovati

Sl. No.	Component	Activity Proposed	Year 1	Year 2	Year 3	Total	Remarks
							on of building
15		Construction of primary school in Bolkunda-Fulberia Gram Panchayat	60.00		-	60.00	School with 5 no class rooms, one teachers room, water facilities, toilets, boundary wall, furniture etc.
16		Infrastructural Development of primary school in different Gram Panchayat	75.00	135.36	150.00	360.36	
a		Infrastructural Development of primary school in Itapara Gram Panchayat		25.00		25.00	Construction of additional 01 no. classroom, furniture, benches, water purifiers, etc will be provided as per requirement
b		Infrastructural Development of primary school in Jamgram Gram Panchayat	25.00			25.00	Construction of additional 01 no. classroom, furniture, benches, water purifiers, etc will be provided as per requirement
c		Infrastructural Development of primary school in shyamdih Gram Panchayat		25.00		25.00	Construction of additional 01 no. classroom, furniture, benches, water purifiers, etc will be provided as per requirement
d		Infrastructural Development of primary school in Bolkunda-Fulberia Gram Panchayat			25.00	25.00	Construction of additional 01 no. classroom, furniture, benches, water purifiers, etc will be provided as

Sl. No.	Component	Activity Proposed	Year 1	Year 2	Year 3	Total	Remarks
							per requirement
e		Infrastructural Development of primary school in Domohani Gram Panchayat			25.00	25.00	Construction of additional 01 no. classroom, furniture, benches, water purifiers, etc will be provided as per requirement
f		Infrastructural Development of primary school in Barabani Gram Panchayat			25.00	25.00	Construction of additional 01 no. classroom, furniture, benches, water purifiers, etc will be provided as per requirement
g		Infrastructural Development of primary school in Salanpur Gram Panchayat	25.00			25.00	Construction of additional 01 no. classroom, furniture, benches, water purifiers, etc will be provided as per requirement
h		Infrastructural Development of primary school in Ethora Gram Panchayat		20.00		20.00	Construction of additional 01 no. classroom, furniture, benches, water purifiers, etc will be provided as per requirement
i		Infrastructural Development of primary school in Basudevpur Jemehari Gram Panchayat	25.00			25.00	Construction of additional 01 no. classroom, furniture, benches, water purifiers, etc will be provided as per requirement
j		Infrastructural Development of primary		25.00		25.00	Construction of additional 01 no.

Sl. No .	Component	Activity Proposed	Year 1	Year 2	Year 3	Total	Remarks
		school in Rupnarayanpur Gram Panchayat					classroom, furniture, benches, water purifiers, etc will be provided as per requirement
k		Infrastructural Development of primary school in Alladih Gram Panchayat			25.00	25.00	Construction of additional 01 no. classroom, furniture, benches, water purifiers, etc will be provided as per requirement
l		Infrastructural Development of primary school in Nuni Gram Panchayat			25.00	25.00	Construction of additional 01 no. classroom, furniture, benches, water purifiers, etc will be provided as per requirement
m		Infrastructural Development of primary school in Panchgachiya Gram Panchayat			25.00	25.00	Construction of additional 01 no. classroom, furniture, benches, water purifiers, etc will be provided as per requirement
n		Infrastructural Development of primary school in Achra Gram Panchayat		20.18		20.18	Construction of additional 01 no. classroom, furniture, benches, water purifiers, etc will be provided as per requirement
o		Infrastructural Development of primary school in Kollya Gram Panchayat		20.18		20.18	Construction of additional 01 no. classroom, furniture, benches, water purifiers, etc

Sl. No .	Component	Activity Proposed	Year 1	Year 2	Year 3	Total	Remarks
							will be provided as per requirement
17		Infrastructural Development of different High schools	80.00	290.00	210.00	580.0	
a		Infrastructural Development of High schools Punchra Panchayat		60.00	60.00	120.0	Construction of 01 no. Hall-room, 02 nos. additional Classrooms, 01 no. office room, providing furniture, benches, water purifiers, etc as per requirement
b		Infrastructural Development of High schools Itapara Panchayat	30.00	30.00		60.00	Construction of 02 nos. additional Classrooms, 01 no. office room, providing furniture, benches, water purifiers, etc as per requirement
c		Infrastructural Development of High schools in Jamgram Panchayat	50.00	50.00		100.0	Construction of 01 no. Hall-room, 02 nos. additional Classrooms, 01 no. office room, providing furniture, benches, water purifiers, etc as per requirement
d		Infrastructural Development of High schools in Panchgachiya Panchayat		50.00	50.00	100.0	Construction of 01 no. Hall-room, 02 nos. additional Classrooms, 01 no. office room, providing furniture, benches,

Sl. No .	Component	Activity Proposed	Year 1	Year 2	Year 3	Total	Remarks
							water purifiers, etc as per requirement
e		Infrastructural Development of High schools in Achra Panchayat		50.00	50.00	100.0	Construction of 01 no. Hall-room, 02 nos. additional Classrooms, 01 no. office room, providing furniture, benches, water purifiers, etc as per requirement
f		Infrastructural Development of High schools in Domohani Panchayat		50.00	50.00	100.0	Construction of 01 no. Hall-room, 02 nos. additional Classrooms, 01 no. office room, providing furniture, benches, water purifiers, etc as per requirement
Total Socio-economic Environment (D)			561.90	1103.34	791.90	2457.14	
18	Land Environm ent	E-vehicle for solid waste collection from Salanpur Block	5.00	-	5.00	10.00	Providing 3 nos. of E-Vehicle for waste collection in Salanpur Block
19		Providing colour coded bins in schools, hospitals etc.	2.00	2.00	2.00	6.00	Providing 45 nos. of Bins
Total Land Environment (E)			7.00	2.00	7.00	16.00	
TOTAL COST (A+B+C+D+E)			1044.9	2111.34	1729.9	4886.14	

B. Action Plan for Natural and Community Resource Augmentation plan (in ₹ Lakh)

Sl. No.	Activity Proposed	Year 1	Year 2	Year 3	Total	Remarks
Natural Resource Augmentation Plan						

Sl. No.	Activity Proposed	Year 1	Year 2	Year 3	Total	Remarks
1	Development of green belt along streams, ponds etc.	0.00	15.00	12.00	27.00	
a	Development of green belt along Lalganj pond	-	-	12.00	12.00	Green belt over 2.50 Ha
b	Development of green belt along diverted route of Nunia Nallah	-	15.00	-	15.00	Green belt over 3.0 Ha
2	Providing solar lamps along the roads and supply of Solar lights to households in nearby Gram Panchayat (300 Nos. Approx.)	30.00	20.00	10.00	60.00	300 units
a	Providing solar lamps along the roads and supply of Solar lights to households (100 Nos. Approx.) in Itapara Gram Panchayat	-	20.00	-	20.00	100 units
b	Providing solar lamps along the roads and supply of Solar lights to households (50 Nos. Approx.) in Shyamdih Gram Panchayat	-	-	10.00	10.00	50 units
c	Providing solar lamps along the roads and supply of Solar lights to households (150 Nos. Approx.) in Bolkunda-Fulberia Gram Panchayat	30.00	-	-	30.00	150 units
Community Resource Augmentation Plan						
3	Training/Workshop on advance agriculture/irrigation practices	-	1.00	1.00	2.00	At Salanpur & Baraboni Block
4	Agricultural Equipment/Training/Livestock Development	8.00	3.00	3.00	14.00	Agriculture equipment for harvesting, Irrigation facilities, livestock procurement etc (4 nos. Gram Panchayat)
5	Rainwater Harvesting structure at 2 Schools		12.50	12.50	25.00	
a	Rainwater Harvesting structure at Punchra High School	-	12.50	-	12.50	2 nos. of Rainwater harvesting structures with different

Sl. No.	Activity Proposed	Year 1	Year 2	Year 3	Total	Remarks
						chambers
b	Rainwater Harvesting structure at Jamgram High School	-	-	12.50	12.50	2 nos. of Rainwater harvesting structures with different chambers
6	Additional 3% of profit accrual during the violation period (₹5661.00 Lakh) has been kept for CRAP. This fund will be used for peripheral development works as per the need of local community.	60.00	50.00	59.83	169.83	
a	Construction of Science Lab and Toilet at Gourangdi R.K.S Institution (H.S)	60.00	-	-	60.00	Minimum 80 sqmt double stored science lab with toilets and water facilities
b	Repairing and renovation of Public Health centers and infrastructure development		50.00	59.83	109.83	Renovation of building, furniture and medical equipment at Salanpur and Baraboni Blocks
Total		98.00	101.50	98.33	297.83	

- (ii) Total budgetary provision with respect to Remediation plan and Natural & Community Resource Augmentation plan is Rs 5183.97 lakhs lakhs. Therefore, project proponent shall be required to submit a bank guarantee of an amount of Rs. Rs 5183.97 lakhs lakhs towards Remediation plan and Natural and Community Resource Augmentation plan with the SPCB prior to the grant of EC.
- (iii) Remediation plan shall be completed in 3 years whereas bank guarantee shall be for 5 years. The bank guarantee shall be released after successful implementation of the EMP, followed by recommendations of the EAC and approval of the regulatory authority.
- (iv) The Environmental Clearance will not be operational till such time the Project Proponent complies with all the statutory requirements and judgment of Hon'ble Supreme Court dated the

2nd August 2017 in Writ Petition (Civil) No. 114 of 2014 in the matter of Common Cause versus Union of India and Ors.

- (v) State Government concerned shall ensure that mining operation shall not commence till the entire compensation levied, if any, for illegal mining paid by the Project Proponent through their respective Department of Mining & Geology in strict compliance of judgment of Hon'ble Supreme Court dated the 2nd August 2017 in Writ Petition (Civil) No. 114 of 2014 in the matter of Common Cause versus Union of India and Ors*
- (vi) PP shall obtain No Objection Certificate (NOC) for extraction of Ground Water from State Water Investigation Directorate (SWID) and SPCB to grant Consent to Operate for expansion capacity only after NOC has been obtained.*
- (vii) PP shall comply all the conditions stipulated by Ministry's EC vide letter No. J-11015/1128/2007-IA-II(M) dated 10th December, 2009*
- (viii) PP shall construct proper retaining and toe wall to be constructed by the PP and the detail to be furnished.*
- (ix) PP shall not divert Nunnia stream till the construction of diversion channel is completed and also leave 60 mtrs from both side of stream till 100% construction is completed. Also, no diversion shall be done till permission from State Water Resource Department is obtained. PP shall construct the earthen check dams in Nunnia Nallah for recharging ground water aquifers where ever necessary*
- (x) During monsoon an excess water discharge of around 900 m³/day is seen in monsoon season which can be used for domestic /agricultural purpose. Therefore, a proper water distribution system with headworks must be constructed upto nearby villages.*
- (xi) PP should carry out Tree Plantation with concurrent to respective gram panchayat by identifying the area Durga Mandir located at Natundih village, and Mardarpur High school, Fulberia villages, and Melikola villages as high particulate matter was observed*
- (xii) PP shall backfill fill the entire final void up to a depth of 20 m from surface to form a water lagoon after cessation of mining activities.*
- (xiii) PP shall submit the Work order for day to day maintenance of 5000 GPH capacity pressure filter no. 1 and 2 at Agent's Office and Electric Substation of Mohanpur Colliery, Salanpur Area is already being worked over within six months to Ministry's Integrated Regional Office.*
- (xiv) No Transportation will be done through any village road and only shall be through dedicated transport route from mine to railway siding by conveyor belt at Itapara (2.5 km away). PP shall use only 35-40 tonne dumpers/trucks only, for transportation of coal till railway siding.*
- (xv) PP shall submit star rating of the mine site as per guidelines of Ministry of Coal (MoC) within 2 years to Ministry's IRO. Further expansion will only be considered based on star rating (atleast 4 star) of the mine from MoC.*
- (xvi) Periodical health check-up shall be conducted to monitor the impact of heavy metals present in core zone & buffer zone air quality and also to prepare an action plan to reduce heavy metals concentration and also report to be submitted to concerned regional office of MoEF&CC.*
- (xvii) PP shall conduct slope stability study and install slope stability radar monitoring to monitor slope movement at OB Dump*

- (xviii) *Third party monitoring by reputed institution for air quality (including heavy metal analysis) shall be carried out at identified locations, both ambient and the process area, to arrive at impact of the proposed expansion at regular interval of 3 years*
- (xix) *PP shall plant minimum 150 ha of Sal trees(only) or and other native species and create a nursery of 10 ha (within 2 years) to distribute the species freely in the region for redevelopment of Sal forest in the region*
- (xx) *PP shall submit the fund allotted for Wildlife conservation plan to Forest Department within six months of issue of this letter.*
- (xxi) *PP to install solar lights along the road used for transportation of coal to avoid the accidents at night and also seek its maintenance. PP is asked to also identify the rural areas for installation of solar light with its maintenance within the study area of 10 km radius buffer zone within one year*
- (xxii) *PP to take proper care of health of R& R villages and a 24X 7 helpline call facility should be provided to such area and also to nearby villages for assisting any medical aid and ambulance facility*
- (xxiii) *PP also to provide drinking water facilities like installation of RO with proper water supply pipe fittings to nearby rural areas and also to install hand pumps by seeking consent from panchayat of the villages located within the study area of 10 km radius buffer zone within two years*
- (xxiv) *PP to fulfill the commitment done in public hearing within the time bound action plan proposed by PP.*
- (xxv) *PP to replace the existing water sprinkler within three years with Fog cannon mist sprayer as these sprinklers create mud puddles. Also 10 nos. of additional Fog canon (mist sprayer) shall be installed to reduce the impact of air pollution at dust generating sources such as haul road, CHP within 1 year.*
- (xxvi) *PP should Install Wind breaker/shield arrangement along the railway siding for reducing the dust propagation in upwind direction.*
- (xxvii) *PP shall install sand/aggregate segregation plant from Overburden (OB) for suitable capacity to extract sand and construction aggregate within 2 years of issue of this letter.*
- (xxviii) *Project proponent to plant 150,000 trees with three Tier Green belt developments (of 50 mtrs width) along the periphery of the mine habitation/villages and transportation route. After completion of tree plantation, number of trees shall be duly endorsed from District Forest Officer. The saplings should be planted with the grant of EC in the initial year so that survival of the plants and trees can be taken care of in future.*
- (xxix) *Top soil should be stored separately at marked area and necessary vegetation shall be maintained to avoid any entrainment of dust.*
- (xxx) *Active OB Dump should not be kept barren/open and should be covered by temporary grass to avoid air born of particles.*
- (xxxi) *PP should conduct epidemiology study to (analysis of the distribution, patterns and determinants of health and disease conditions in defined populations).*
- (xxxii) *PP shall pay to farmers of agricultural land if there is any loss due to pollution/damange due to blasting activity found by concerned District Commissioner as per extent rules or norms*

- (xxxiii) Proponent shall appoint an Occupational Health Specialist for Regular and Periodical medical examination of the workers engaged in the Project and maintain records accordingly; also, Occupational health check-ups for workers having some ailments like BP, diabetes, habitual smoking, etc. shall be undertaken once in six months and necessary remedial/preventive measures taken accordingly. The Recommendations of National Institute for ensuring good occupational environment for mine workers shall be implemented; The prevention measure for burns, malaria and provision of anti-snake venom including all other paramedical safeguards may be ensured before initiating the mining activities.
- (xxxiv) Persons of nearby villages shall be given training on livelihood and skill development to make them employable with its proper records.
- (xxxv) The illumination and sound at night at project sites disturb the villages in respect of both human and animal population. Consequent sleeping disorders and stress may affect the health in the villages located close to mining operations. Habitations have a right for darkness and minimal noise levels at night. PPs must ensure that the biological clock of the villages is not disturbed; by orienting the floodlights/ masks away from the villagers and keeping the noise levels well within the prescribed limits for day light/night hour
- (xxxvi) PP should establish in house (at project site) environment laboratory for measurement of environment parameter with respect to air quality and water (surface and ground. A dedicated team to oversee environment management shall be setup which should comprise of Environment Engineers, Laboratory chemist and staff for monitoring of air, water quality parameters on routine basis. Any non- compliance or infringement should be reported to the concerned authority.
- (xxxvii) Hon'ble Supreme Court in an Writ Petition(s) Civil No. 114/2014, Common Cause vs Union of India & Ors vide its judgement dated 8th January, 2020 has directed the Union of India to impose a condition in the mining lease and a similar condition in the environmental clearance and the mining plan to the effect that the mining lease holders shall, after ceasing mining operations, undertake re-grassing the mining area and any other area which may have been disturbed due to their mining activities and restore the land to a condition which is fit for growth of fodder, flora, fauna etc. Compliance of this condition after the mining activity is over at the cost of the mining lease holders/Project Proponent". The implementation report of the above said condition shall be sent to the Regional Office of the MoEFCC.

Agenda No. 22.3

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

[Online Proposal No. IA/CG/CMIN/22290/2014; File No. J-11015/03/2008-IA-11(M)]

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

The EC condition stipulates as specific conditions no. 4(ix) as *Transportation of raw coal, washed coal and the rejects shall be through rail. PP is requesting to transport coal rejects by road in place of rail.*

22.3.2 The EAC during deliberations noted the following:

- (i) Earlier, the proposal was considered in the 20th EAC meeting held during 13-14 October, 2021 for amendment in Environment Clearance. The proposal was deferred by EAC on certain observation. PP has now submitted the compliance of observation of EAC and provided additional information which are enlisted below:

S. No.	Observation of EAC	Reply by PP
1	PP to seek MoU with the power plants for reject management and accordingly designed/modify the traffic study suggesting environmental safety measure for road transportation. The traffic study should be conducted with actual amount of reject to be transported for the respective routes and with the compensatory action plan against the greenhouse gases likely to be released during transportation.	<p>Sale of reject is done based on the requirement of respective users of reject as mentioned in the proposal. Quantity of rejects varies on <i>day-to-day</i> basis as a function of the blending capacity, quality and quantity of coal available from other sources at respective sites. The sale of reject is thus done purely on sporadic requirements from end use plants and accordingly purchase orders are issued as a function of varying time and customer</p> <p>Further, as highlighted in the traffic assessment study and Air Modelling done for road transportation of entire quantity of reject, wherein it was concluded that transportation of reject through road are not breaching into overall carrying capacity of the respective roads as well as the resultant air pollution level falling within the prescribed norms.</p> <p>GHG emission for 40% reject transportation due to diesel consumption would be negligible - that shall be offset by raising compensatory afforestation, greenbelt development, water body restoration, Carbon sequestration etc.</p>

		Moreover, renewable energy utilization at mine site shall be further explored for GHG reduction
2	PP shall submit quantity of reject to be transported on each proposed Power Plants with its fleet size and respective road distance and likely impacts.	<p>Sale of reject is being done based on the requirement of the respective users of the reject as mentioned the proposal. Quantity of rejects varies day to day based on the blending capacity which depends on the quality and quantity of the coal available from other source at respective users. In view of the same, sale of the rejects is done on the basis of sporadic requirements from end use plants and accordingly purchase orders are issued by said plants from time to time. Therefore, quantity of rejects to be transported from each road and size of fleet deployed shall be varying in nature. However, the same shall be less than the maximum load as envisaged in the Traffic assessment study. Moreover, only 40% of reject is being allowed by EAC for Road Transportation.</p> <p>Further, it is pertinent to highlight that the traffic assessment study as well as Air Modelling was done for road transportation of entire amount of reject (100%) which is on higher side than being considered for approval by EAC (40%), wherein it was concluded that transportation of the reject through road will not affect the overall carrying capacity of the respective roads as well as the resultant air pollution shall be within the prescribed norms. Moreover, all the trucks carrying rejects shall be covered with Tarpaulin and any other mitigation measures imposed by Chhattisgarh Environment Conservation Board shall be complied.</p>
3	EAC asked for submitting undertaking to mandatorily to transport the 60% of the rejects via rail and only 40% of the reject will be transported by the roads as agreed by PP.	Undertaking for mandatorily to transport the 60% of the rejects via rail and only 40% of the reject will be transported by the roads was submitted to MoEF&CC. dated 25.10.2021
4	PP to restrict rejects consumers to only 100 km and accordingly propose the users.	As already specified in the proposal as well as presentation to the committee, there are no local

		user Industry as well as power plants available for rejects within 100 Km of the project. In view of the same and for smooth disposal of the rejects, it is requested to committee to allow, transportation of 40% of rejects through road to already proposed users upto 300 Km.
5	PP shall study the presence of habitation/villages (100 mtrs along both side of road) through the proposed route and propose mitigation measures	Traffic assessment study as well as Air Modelling was done for road transportation of entire amount of reject (100%) which is on higher side than being considered for approval by EAC (40%), wherein it was concluded that transportation of the reject through road will not affect the overall carrying capacity of the respective roads as well as the resultant air pollution shall be within the prescribed norms. In view of the above, no impact on habitation/villages (100 m along both side of road) is envisaged in terms of Air Pollution as well as carrying capacity of the road. Additionally, all other mitigation measures including transportation by covered trucks as well as compliance of any additional mitigation measures imposed by CECB.
6	PP shall submit the clarification/response raised in the representation received by EAC.	The response is given in Table below

Clarification/response of PP on representation against the amendment

S. No.	Observation	Reply by PP
1	The proposal amounts to an alteration of the EC granted to RRVNUL on 10.08.2018 and pursuing the same as an amendment is illegal.	EC granted on 10.08.2018 to RVUNL for PEKB Coal Block 10 to 15 MTPA accordance with EIA notification 14 th September 2006 and its amendments. Present proposal is in line with EIA Notification 2006 and its subsequent amendments. Present proposal is also in line with EIA Notification 2006.
2	RRVUNL has failed to comply with conditions stipulated in paragraph 4 and 5 of the EC granted on 24.07.2019	The amendment of EC J-11015/120/2014-IA-II(M) dated 10th August 2018 was granted by MoEF&CC vide letter no J-11015/03/2008-IA-II (M) dated 24.07.2019 considering the coal washery reject by road subject to stipulation of additional conditions by CECB for a period of

		<p>one year. And same was cited in 5th condition with additional point of formulation of approval guidelines by Ministry of coal for washery reject disposal, whichever is earlier.</p> <p>The PP had applied to seek amendment in CTO condition No. 8 regarding permission for Road transport of Rejects. The process was in process and due to Covid -19 pandemic remain inconclusive so no reject transportation has been done by PP yet and hence discard the allegation of non- compliance of EC conditions.</p>
3	The studies carried out and attached as part of the EIA Addendum report are incomplete, inadequate and misleading	<p>Application was submitted for amendment in condition no. 4 (ix) in the EC for permission to transport reject coal by Road and a detail Traffic Assessment of existing roads and its carrying capacity including modelling of impact due to Road transportation was done through NABET accredited consultant M/s Vardan Environet. Same report has been with application. The result show that transportation of rejects will not adversely affect the carrying capacity of the concerned road and the air modelling shows</p>
4	Transportation of coal by roads in the same area earlier has led to safety and environmental concern	<p>Washed coal as well as rejects transportation was done through road as per time line and approval provided in earlier EC that to through covered trucks and other measures were ensured as per condition imposed in CTO issued by CECB. The additional arrangement of manual sweeping, wheel washing at both site and siding also PUC certification of vehicles used for transportation was taken care of.</p> <p>It is pertinent that no road transportation has taken place after 10 August, 2018 and before that washed coal was transported near to Ramanuj nagar Raiway siding with due care.</p>
5	The cost of selling coal rejects to generate profit should not be borne by the current user of the road	<p>The rejects shall be sold to users only using National or State highways and the cost of the same will be borne by the users only. Moreover as per traffic assessment report, load on road will be within the specified norms and shall not affect category of respective roads.</p>

- (ii) During discussions, PP agreed to transport 40 % of the rejects via Road and rest 60 % by the railways and had provided undertaking vide dated 25th October, 2021 w.r.t the transportation of rejects from the project site.

23.3.4 *The EAC, after deliberations found that PP has requested the transportation of washery rejects only by roads and not by rail as PEKB mine is located in the Surguja District of Chhattisgarh, where no industry major is located to feed the washery rejects. However, the washed coal is being transported near to Ramanuj Nagar Railway siding.*

In the background of the matter, earlier PP explained their limitation of not implementing the conditions due to limited usability of rejects and higher transportation cost involved in longer railway route, resulting untimely disposal of rejects, which make it unfeasible. It was supported to supply and feed in number of plants with appropriate blending with high GCV coal. Dispatch of rejects to any other prospective user plant is possible only by road transportation only. Rejects have to be kept in plant itself for longer period.

After deliberation, PP agreed to transport only 40 % of the reject (as per current sanctioned capacity of coal washery (i.e. 1.2 MTPA peak) via road and rest via rail. Considering that there is no close feeder, the rejects have to sell to plants located in Bilaspur, Raipur, Raigarh Districts of Chhattisgarh and their feeding to various power plants will vary. Therefore, in this context EAC suggested to seek MoU from the power plants to freeze the road distances/route. However, PP cited the reason of fragile sale of reject on sporadic requirements from end use plants, therefore he is unable to seek MoU from the power plant located at a distance within 275 km. The committee suggested to use 35-40 tonne vehicles/dumpers for transportation of reject to reduce the fleet size. Earlier, the committee expressed concerns over long distance of transportation of rejects and in this regard, PP replied that one of nearest plants is located at a distance of the 130 km and away so it is not feasible to restrict the consumer upto 100 km. The EAC further enquired about the travelling distance from the nearest highway and site. PP replied that NH43 is located at a distance of 13 km. EAC enquired about the reject to be taken to its own power plant located in Rajasthan via rail so PP replied that extra no of wagon for reject transport is not available so PP is not able to transport it to the Power plant at this stage.

The committee also took a note that rejects have been lying in the plant since 10th August, 2018, which is not appropriate from environment point view. EAC expressed concern over it and found that Road transportation of the reject is unavoidable. Further, EAC desired that GHG emission due to transportation by road should be compensated by tree plantation by project proponent by acquiring separate land parcel and making an artificial forest of about 5 ha.

EAC considered only to allow the transportation by Road of 40 % (about 1.2 MTPA) of the washery reject only upto distance of 275 km with the interim measures to be taken by CECB in terms of

monitoring of fleets/transportation of reject quantity with dedicated route only to National Highway without following district/village road. Considering the fragile situation for disposal of rejects at this stage, Committee recommended that PP should firm up the plan for complete with 100% transportation of coal rejects through rail with Ministry of Railway and recipient power plants within period of 3 years and no further extension shall be given subsequent to that.

In view of above, the EAC recommends the proposal amendment in Environmental Clearance of Expansion of Parsa East and Kanta Basan Opencast Coal Mine from 10 MTPA to 15 MTPA and Pit Head Coal Washery from 10 MTPA to 15 MTPA of M/s Rajasthan Rajya Vidyut Utpadan Nigam Ltd. in total ML area of 2682.856 ha located in Hasdeo- Arand Coalfields in District Sarguja (Chhattisgarh) for a period of 3 years to transport 40% of rejects (i.e. 1.2 MTPA) upto distance of 275 km, under the provisions of EIA Notification, 2006 and its amendments therein. All other conditions stipulated in EC. J-11015/03/2008-IA-II(M) dated 10th August 2018 and dated 24th July, 2019 shall remain unchanged with following additional specific conditions to be followed:

- (i) PP shall obtain CTO from the respective SPCB before commencement of the transportation of 40 % washery reject (1.2 MTPA peak) via road and 60 % of the washery reject by rail only for period of 3 years. State Pollution Control Board shall ensure adequate fleets size /transportation of reject (35-40 tons) through dedicated route of National Highway without following district/village road, not more than 275 kms from plant site.*
- (ii) The trucks to be properly covered with tarpaulin sheet or with rigid covering with wheel washing facility to be provided at site before leaving for haul road.*
- (iii) Project proponent shall acquire separate land parcel and making an artificial forest of about 5 ha only of Sal trees or any other native species, medicinal and herbal species (out of mine site) and plant and maintain it through dedicated contractor, which to be hired by company for implementation within 2 years. After completion of tree plantation, number of trees shall be duly endorsed from District Forest Officer*
- (iv) Road inside and at periphery of the washery plant shall be constructed of concrete only.*
- (v) PP shall fund with adequate amount for maintenance of roads, proposed to be used for transportation*
- (vi) PP should Install Wind breaker/shield arrangement along the railway siding and the approach roads or routes used for reaching the national highways for reducing the dust propagation in upwind direction.*
- (vii) PP to install not less than 5 nos. of Fog canon (mist sprayer) having 100 mts water jet/throw length to reduce the impact of air pollution at dust generating sources mainly on haul road, OB dumping areas within 1 year.*
- (viii) PP to install a continuous ambient air quality monitoring stations at suitable locations in vicinity of mine with consultation of SPCB. The real time data so generated shall be uploaded on company website. In addition, data should also be displayed digitally at entry and exit gate of mine lease area for public display.*

- (ix) *A third party assessment of EC compliance shall be under taken through reputed institute (like ICFRI/ NEERI/ IIT) or any other expert agency identified by the Ministry.*
- (x) *PP to install solar lights along the haul road used for transportation of coal to avoid the accidents at night with its maintenance. PP to identify the rural areas for installation of solar light with its maintenance within the study area of 10 km radius buffer zone within one year.*
- (xi) *PP also to provide drinking water facilities like installation of RO with proper water supply pipe fittings to nearby rural areas and also to install hand pumps by seeking consent from panchayat of the villages located within the study area of 10 km radius buffer zone within two years*
- (xii) *PP shall install sand/aggregate segregation plant for suitable capacity to extract sand from existing mine and construction aggregate within 2 years of issue of this letter*
- (xiii) *PP should conduct epidemiology study to (analysis of the distribution, patterns and determinants of health and disease conditions in defined populations).*
- (xiv) *PP shall only use conveyer belt to transport coal from mine pit to washery. No Truck transportation shall be done.*
- (xv) *Surface runoff from Storage yard of coal, reject dumps shall be stored in settling tank and later treated before any usage and quality shall be check frequently.*
- (xvi) *PP to keep the record of the PUC vehicles used for road transportation of the rejects i.e no of trucks deployed each day for individual roads/ highways and with it validity of certification.*
- (xvii) *Hon'ble Supreme Court in an Writ Petition(s) Civil No. 114/2014, Common Cause vs Union of India & Ors vide its judgement dated 8th January, 2020 has directed the Union of India to impose a condition in the mining lease and a similar condition in the environmental clearance and the mining plan to the effect that the mining lease holders shall, after ceasing mining operations, undertake re-grassing the mining area and any other area which may have been disturbed due to their mining activities and restore the land to a condition which is fit for growth of fodder, flora, fauna etc. Compliance of this condition after the mining activity is over at the cost of the mining lease holders/Project Proponent". The implementation report of the above said condition shall be sent to the Regional Office of the MoEFCC.*

Agenda No. 22.4

Amlohri Open Cast Coal Mine Project from 10 MTPA to 14 MTPA in an ML area of 2175 ha of M/s Northern Coalfields Limited, located at district Sidhi (Madhya Pradesh) - For Amendment in Environmental Clearance- reg

[Online Proposal No. IA/MP/CMIN/231973/2021; F.No. IA-J-11015/364/2005-IA II(M)(Pt file)]

22.4.1 The proposal is for amendment of existing Environmental Clearance for Amlohri Open Cast Coal Mine Project from 10 MTPA to 14 MTPA in an ML area of 2175 ha of M/s Northern Coalfields Limited, located at District Sidhi (Madhya Pradesh).

22.4.2 The EAC during deliberations noted the following:-

- Earlier, Environment clearance to the project was obtained under EIA Notification, 2006 vide Ministry's letter No. J-11015/364/2005-IA-II(M) (Part File) dated 2nd September, 2015 for Expansion under 7 (ii) from 10 MTPA to 14 MTPA in an ML area of 2175 ha
- Project proponent has requested for Amendment in existing EC for inclusion of OB Processing Plant to generate M-sand (Medium sand) within existing 2175 ha Lease area. The project is reported to be beneficial in terms of Promotion of M-sand, which will reduce dependence and demand on natural sand and gravel.
- The estimated water requirement for proposed OB to sand Segregation plant is initially 800 m³. This requirement will be met from Treated ETP water. As per the plant design 90% of this water will be re-circulated and only 10% i.e. 80 m³/day additional water will be required for the proposed plant.
- The processing plant will generate Manufactured sand (M- sand) with processing capacity of 1000 m³/ day along with coal production capacity of 14 MTPA
- As indicated above, for extraction of coal of 14.0 Million tonnes of coal about 66.70 Mm³ (Max) of overburden is being excavated annually. This overburden (OB) lying over in-situ coal seam needs to be removed ahead for exposure of coal seam and subsequent extraction of coal. The overburden which is thus excavated comprises of alluvial soil, hard rocks viz. Sand stone, shale, their intercalations and sometimes sand band etc. The excavated overburden is dumped at earmarked site as external OB dump and when sufficient safe space is created in the mine void, the excavated OB is also accommodated in the de-coaled void
- It was found that the team from M/s CDE Asia Limited and M/s Starke Minerals has visited NCL for analyzing the over burden material for its suitability as sand material as per IS 383 (2016). Both the agency have reported approximately yield of 65 to 75 % sand (in zone II and zone III sand in the over burden material of NCL). ***It will reduce the adverse impacts on the riverine ecosystem & available in all seasons at cheaper cost than river sand which will help in conservation of overall ecosystem.*** This is a proactive effort by NCL company for sustainable coal mining.
- Mine Plan and Mine Closure Plan approved by Board of Directors in 266th NCL Board Meeting held on 30.07.2021
- These M-sand can be utilized through Joint Ventures with district administration in the form of Pradhan Mantri Awas Yojana (PMAY), Pradhan Mantri Gram Sadak Yojana (PMGSY) and other State plan Schemes for construction of School, buildings roads in the district under NCL's CSR initiative.
- The change in Configuration will be as mentioned in the table given below

S. No.	Plant/ Equipment/ Facility	Existing Configuration	Proposed Configuration	Final configuration after	Detail of Product
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				amendment	
1	Opencast Coal mining activities in EC sanctioned area of 2175 ha	Dragline and Shovel Dumper Combination (Details of	No change in Existing configuration for coal mining	No change in Existing configuration for coal mining	Coal production of 14 MTPA
2	OB Processing to generate M-sand @ 1000 m3 /day within EC sanction area of 2175 ha	Nil	Crushers, Screens, Hoppers, Hydro cyclone, conveyo	Crushers, Screens, Hoppers, Hydro cyclone, conveyor	M-sand @ 1000 m3 /day

22.4.4 The EAC, after deliberations found that the project lies in the Singrauli district and such initiatives by the PP will produce benefit to surrounding area depending sand mining from river ecosystem. The air modelling provided in the report was conducted considering the impact of OB processing plants. As it was seen that the jaw crushing is involved to reduce the size of the particle so PP was asked about the fugitive and dust mitigation measures to be adopted at crushing plants. PP informed that fully covered crushers will be installed with negligible chance of leakage. Vibrating screen will also be covered to reduce the air borne dust. During loading the segregated sand after washing in the hydrocyclone becomes wet, which further be transported in tarpaulin covered trucks. The EAC suggested the three tier plantation for along the haul road and to maintain greenery within the OB processing plant area. The EAC asked about the water demand and source and waste water generation from the OB processing plant. PP confirmed that it is a zero water discharge process as the Mine Water/Treated ETP water from the Amlohri OCP will be used in the hydro-cyclone to separate clay and slit from the OB. The water with clay and silt is transferred into the thickener which separates 90% of the total input water for reused, whereas the balance 10% water with clay is discharged through pipeline in clay pond for settling.

*The EAC, after deliberations **recommended** the proposal amendment of existing Environmental Clearance for Amlohri Open Cast Coal Mine Project from 10 MTPA to 14 MTPA in an ML area of 2175 ha of M/s Northern Coalfields Limited, located at district Sidhi (Madhya Pradesh to include over burden processing plant to generate Manufactured sand (M- sand) with processing capacity of 1000 m3/ day along with coal production capacity of 14 MTPA under the provisions of EIA Notification, 2006 and its amendments therein. All other conditions stipulated in EC letter No. J-11015/364/2005-IA-II(M) (Part File) dated 2nd September, 2015, shall remain unchanged with following additional specific conditions to be followed:*

- (i) PP shall comply all the conditions stipulated by Ministry's EC vide letter No. J-11015/364/2005-IA-II(M) (Part File) dated 10th February, 2006 and 2nd September, 2015*
- (ii) PP shall obtain No Objection Certificate from Central Ground Water Authority and CTO (for proposed amendment).*

- (iii) *PP to implement the Action Plan as framed by SPCB/CPCB for specific project that falls under Singrauli as critically polluted area and implement in time bound manner.*
- (iv) *PP to install 1 more continuous ambient air quality monitoring stations at suitable locations preferably village side in consultation of SPCB. The real time data so generated shall be uploaded on company website. In addition, data should also be displayed digitally at entry and exit gate of mine lease area for public display.*
- (v) *PP shall seek Certified Compliance Report from Ministry IRO for checking the status of compliance of EC conditions by March, 2022.*
- (vi) *PP shall develop 2 water harvesting pond near the villages of suitable area as suggested by Gram Panchayat within 1 year.*
- (vii) *PP to maintain the topped haul road properly to minimized the dust emission. PP to also develop pucca roads by seeking consent from the panchayat with widening of roads especially roads inter linking the villages within the study area of 10 km radius buffer zone.*
- (viii) *Stacked aggregates (Sand, clay etc) at stockyards are to be kept covered with tarpaulin sheets and water sprinklers to be provided on top to prevent the escape of dust to nearby areas.*
- (ix) *PP to plant 150,000 plants with three tier plantation along the haul Roads and identified areas with consent to the gram panchayat within two years and take care for rest of the 3 years for their proper growth.*
- (x) *PP to develop an ECO park with separate area of 5 ha for medicinal and herbal species within two years.*
- (xi) *PP to install solar lights along the road used for transportation of coal to avoid the accidents at night and also seek its maintenance. PP is asked to also identify the rural areas for installation of solar light with its maintenance within the study area of 10 km radius buffer zone within one year and submit its report to IRO-Lucknow.*
- (xii) *The total water demand (peak) in for proposed sand segregation plant shall be met by utilizing only mine water.*
- (xiii) *Hon'ble Supreme Court in an Writ Petition(s) Civil No. 114/2014, Common Cause vs Union of India & Ors vide its judgement dated 8th January, 2020 has directed the Union of India to impose a condition in the mining lease and a similar condition in the environmental clearance and the mining plan to the effect that the mining lease holders shall, after ceasing mining operations, undertake re-grassing the mining area and any other area which may have been disturbed due to their mining activities and restore the land to a condition which is fit for growth of fodder, flora, fauna etc. Compliance of this condition after the mining activity is over at the cost of the mining lease holders/Project Proponent". The implementation report of the above said condition shall be sent to the Regional Office of the MoEFCC.*

Agenda No. 22.5

Mohanpur Opencast Coal Mine Expansion Project (production from 0.41 MTPA to 1 MTPA and ML area from 114.91 ha to 164.91 ha of M/s Eastern Coalfields Ltd located near North Asansol Town, District Burdwan (West Bengal)- For extension of validity of Environmental

Clearance- reg

[Online Proposal No. IA/WB/CMIN/231116/2021; F No. No. J-11015/1128/2007-IA.II(M)]

22.5.1 The proposal is for extension of validity of Environmental Clearance of Mohanpur Opencast Coal Mine Expansion Project (production from 0.41 MTPA to 1 MTPA and ML area from 114.91 ha to 164.91 ha of M/s Eastern Coalfields Ltd located near North Asansol Town, District Burdwan, West Bengal)

PP is requesting to extend the validity of existing environmental clearance for period of 09.12.2025 as life of OCP is valid upto 09.12.2021 after incorporating the provision of MoEF&CC Notification dated 18th January 2021 issued for purpose of counting validity during covid period.

22.5.2 The EAC during deliberations noted the following:

- Earlier, the environment clearance to the project was obtained under EIA Notification, 2006 vide Ministry's letter No. J-11015/1128/2007-IA-II(M) dated 10th December, 2009 for Expansion from 0.41 MTPA to 1 MTPA and ML area from 114.91 ha to 164 ha.
- It is noted that as per EC, balance life of the mine is 11 years. So accordingly, EC was valid till 9th December, 2020.
- PP has requested for extension in validity of EC as per EIA Notification, 2006
- Further as per S.O. 221 (E) of MoEF&CC dated 18th January 2021 the period from 01.04.2020 to 31.03.2021 is not to be considered for the purpose of calculation of the period of validity of prior environment clearance. Thus, validity of EC is till 09.12.2021.

“9A. Notwithstanding anything contained in this notification, the period from the 1st April, 2020 to the 31st March, 2021 shall not be considered for the purpose of calculation of the period of validity of Prior Environmental Clearances granted under the provisions of this notification in view of outbreak of Corona Virus (COVID-19) and subsequent lockdowns (total or partial) declared for its control, however, all activities undertaken during this period in respect of the Environmental Clearance granted shall be treated as valid”

- The extension in validity of EC has been applied since PP was not able to achieve its rated peak capacity of 1.0 MTY in most of the years of its mine life of 11 years due to delay in land acquisition and issues related to R&R. The remaining reserves as assessed in the year 2014-15 was 7.08 MT.
- In above view PP has now requested for complete extraction of coal reserve, life of Mohanpur Expn. OCP shall be extended by another 4 years from 2021-22 to 2024-25 from present life as per existing EC.
- The change in Configuration will be as mentioned in the table given below

S. No.	Plant/ Equipment/ Facility	Existing Configuration	Proposed Configuration	Final configuration after amendment	Remark
1	Opencast Coal Mine	Capacity- 1.00 MTY; Area- 164.91 Ha, 11 years	Capacity- 1.00 MTY; Area- 164.91 Ha, 15 years	Capacity- 1.00 MTY; Area- 164.91 Ha, 15 years	Validity of extension by 4 years

22.5.3 The EAC, after deliberations observed that M/s ECL has also submitted the proposal of expansion in EC for the same mine and is being recommended by EAC. However, since the validity of EC dated 10th December, 2009 is getting expired on 9th December, 2021, PP has requested for extension of said EC. In view of this, EAC **recommended** the proposal for extension of validity of Environmental Clearance of Mohanpur Opencast Coal Mine Expansion Project (production from 0.41 MTPA to 1 MTPA and ML area from 114.91 ha to 164.91 ha of M/s Eastern Coalfields Ltd located near North Asansol Town, District Burdwan (West Bengal) for a further period upto 09.12.2025 under the provisions of EIA Notification, 2006 and its amendments therein. All other conditions stipulated in EC. J-11015/1128/2007-IA-II(M) dated 10th December, 2009, shall remain unchanged.

Agenda No. 22.6

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

[Online proposal No. IA/JH/CMIN/231553/2021; F No. J-11015/227/2007-IA.II(M)]

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

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

- The project is covered in Survey of India topo-sheet no. 73-A/14 and is bounded by latitudes 23° 40' 47"N & 23° 42' 20"N and longitudes 84° 58' 46"E & 84° 59' 43"E.
- Coal linkage of the washery is proposed through basket linkage & e-auction.
- No Joint venture cartel has been formed for the project.
- Project does not fall in Critically Polluted Area (CPA), where the MoEF&CC vide its OM dated

13th January 2010 has imposed moratorium on grant of environment clearance.

- (v) Employment generation, 457 direct employment & 1000 in-direct employment has already been provided from the project.
- (vi) The project is reported to be beneficial in terms of employment opportunities both for skilled and semi-skilled persons in the area. Business opportunity in secondary & Tertiary sectors will increase. The proposed project will also bring about enhanced socio-economic benefits to local population due to expenditure in CSR activities, post-mining enhancement of green cover, contribution to exchequer etc.
- (vii) Earlier, the environment clearance to the project was obtained under EIA Notification, for 3.30 MTPA within 255.68 Ha vide letter no: J-11015/227/2007-IA-II (M) Dated: 21.02.2017.
- (viii) Total mining lease area as per block allotment is 1203 Ha. Mining Plan (Including Progressive Mine Closure Plan) has been approved in the 506th Board meeting held on 31.08.2021 for 272.55 Ha.
- (ix) The land use details (Area in Ha) are as follows

Present land Use

Present Land Use	
Particulars	Area in Ha.
Additional Area Proposed for Mining	16.87
Backfilled Area Reclaimed with Plantation	68.14
Backfilled Area without Plantation	74.15
Active Mine Void	12.83
Mine Void filled with Water	69.7
Plantation in Safety Zone, Embankment and Undisturbed Land	30.86
Total Area in Ha.	272.55

Land Use during Mining (Area in Ha)

Land Use During Mining	
Particulars	Area in Ha.
Quarry	16.87
Backfilled Area Reclaimed with Plantation	139.91
Haul Road	2.38
Internal Dumping into Mine Void	12.83
Mine Void filled with Water	69.7
Plantation in Safety Zone, Embankment and Undisturbed Land	30.86
Total Area in Ha.	272.55

Post Mining Land Use

Land Use During Mining		Post Mining Land Use	
Particulars	Area in Ha.	Particulars	Area in Ha.

Quarry	16.87	Mine void for Future use	16.87
Backfilled Area Reclaimed with Plantation	139.91	Backfilled Area Reclaimed with Plantation	155.12
Haul Road	2.38		
Internal Dumping into Mine Void	12.83		
Mine Void filled with Water	69.7	Mine Void filled with Water	69.7
Plantation in Safety Zone, Embankment and Undisturbed Land	30.86	Plantation in Safety Zone, Embankment and Undisturbed Land	30.86
Total Area in Ha.	272.55	Total Area in Ha.	272.55

- (x) Total geological reserve reported in the mine lease area is 450.53 MT with 1.35 MT mineable reserve. Out of the total mineable reserve of 1.35 MT, 1.35 MT is available to extraction. Percent of extraction is 100 %.
- (xi) 3 seams with thickness ranging from 1 meter to 13 meter are workable. Grade of coal is G-11. Stripping ratio is 2.65 while gradient is 1 to 7 degrees.
- (xii) Method of mining operation is by open-cast mining using Shovel-dumper mining system.
- (xiii) Life of mine is 2 years.
- (xiv) The project has no external OB dumps. Internal OB in an area of 12.83 Ha with 3.58 Mm³ of OB is envisaged in the project.
- (xv) Total quarry area is 241.69 ha out of which backfilling will be done in 155.12 Ha while final mine void will be created in an area of 86.57 Ha with average depth of 80 m. Backfilled quarry area of 155.12 Ha shall be reclaimed with plantation. Final mine void will be converted into a water body.
- (xvi) Transportation of coal has been proposed by dumpers in mine pit head, from surface to siding by trucks and at sidings by wharf-wall.
- (xvii) Reclamation Plan in an area of 185.98 Ha comprising of 155.12 Ha of internal dump and 30.86 ha of green belt and safety zone.
- (xviii) 146.79 ha of forest land has been reported to be involved in the project. Approval under the Forest (Conservation) Act, 1980 for diversion of 74.81 Ha of forest land for non-forestry purposes has been obtained vide MoEF&CC letter No. 8-60/1994-FC Dated: 30.07.2015 & for diversion of 71.98 Ha of forest land for non-forestry purposes has been obtained vide MoEF&CC letter No. 8-60/94-FC Dated: 01.07.1996.
- (xix) No National Parks, Wildlife Sanctuaries and Eco-Sensitive Zones fall within 10 km boundary of the project.
- (xx) The ground water level has been reported to be varying between 6.13 m (Pre-monsoon) to 5.33 m (Post-monsoon) (Average). Total water requirement for the project is 451 KLD.
- (xxi) Application for obtaining the NOC of the Central Ground Water Authority has been approved submitted vide application no: vide application no: 21-4/359/JH/MIN/2019 Dated: 27.09.2021.
- (xxii) Consent to Operate for the existing capacity was obtained from the Jharkhand State PCB on 28.12.2018 and is valid upto 31.12.2022.

- (xxiii) The drainage of the block is controlled by the Damodar River flowing along the eastern boundary of the project.
- (xxiv) Regular monitoring of ambient air quality is being carried out on fortnightly basis. The documented report is submitted to JSPCB and also to MoEF&CC along with half yearly compliance report. In general, the results of ambient air quality monitoring data were found within prescribed limits except few aberrations which can be attributed to the specific local conditions during the day of sampling.
- (xxv) A case filed in NGT, New Delhi vide OA No: 27/2020/EZ regarding non-compliance of EC conditions. Last hearing held on 06.08.2021. Next hearing is scheduled on 08.12.2021.
- (xxvi) The project does not involve violation of the EIA Notification, 2006 and amendment issued thereunder. The coal production, realized from the project, is given below:

Year	EC Sanctioned Capacity (MTPA)	Actual Production (MTPA)	Excess production beyond the EC sanctioned capacity
2009-10	2.30	0.82	--
2010-11	2.30	0.82	--
2011-12	2.30	0.70	--
2012-13	2.30	0.74	--
2013-14	2.30	0.73	--
2014-15	2.30	0.55	--
2015-16	2.30	0.51	--
2016-17	3.30	2.79	--
2017-18	3.30	2.52	--
2018-19	3.30	3.29	--
2019-20	3.30	2.94	--
2020-21	3.30	1.48	--

- (xxvii) The project involves no R & R.
- (xxviii) Total cost of the project is Rs. 8326 Lakhs. Cost of production is Rs. 853.90/Tonne. The fund for the CSR should be allocated based on 2% of the average net profit of the Company for the three immediately preceding financial years. Environment Management cost is Rs. 15.87 Crore.

22.6.3 The EAC during deliberations noted the following:

- The project has been in operation as per the approved mining plan and mine closure plan of Rohini OCP (3.0 MTPA / 3.3 MTPA & 255.68 Ha) approved by CCL Board on 24-25.08.2016 and environmental clearance obtained for 3.30 MTPA within 255.68 Ha. from MoEFCC vide letter no: J-11015/227/2007-IA-II (M) Dt. 21.02.2017.
- The Project Report of Rohini OCP (0.8 MTPA) was sanctioned in March 1991 with capital investment of 27.18 Crores and the mine came into operation in FY 1992-93. Later, the expansion PR of Rohini OCP (2.0/2.30 MTPA) was approved by CCL Board on 29.09.2008.
 - As the mineable reserves within the EC boundary of Rohini OCP is on the verge of exhaustion, it was planned to exploit coal from 16.87 Ha. of area within the Karkatta block, falling outside the

EC Boundary of Rohini OCP (3.30 MTPA and 255.68 Ha).

- A revised mining plan and mine closure plan of Rohini Expansion OCP has been prepared for a rated capacity of 0.75 MTPA within the project area of 272.55 Ha. and subsequently obtained approval from CCL Board in its 506th meeting held on 31.08.21
- The PP had uploaded the minutes of 506th meeting of the board of directors (CCL) held on 31.08.2021 for seeking the approval of Mining Plan and Mine Closure Plan. Approval letter of Mining Plan is yet to be furnished by the PP
- The Damodar River is flowing at the eastern boundary of the project site and PP was asked to take adequate measures for its flood bank protection.
- Status of forest clearance for forest land involved in the project.

F.C. no		Notified Forest in Ha.	GM JJ in Ha.	Total Forest Land
8-60/94	Dt.			
30.07.2015		73.22	1.59	74.81
8-60/94	Dt.			
01.07.1996		71.98	-	71.98

- The Committee finally inferred that additional land from where coal to be extracted is contiguous from the existing mine lease and involve no forest land. PP had not applied for star rating in Ministry of coal and the Committee suggested to apply for rating as per the guidelines of Ministry of coal, which should be more than 4.0 at the time of submission of EIA-EMP report and Damodar river is located towards the Eastern boundary of the mine lease so PP was asked about the measure taken to protect it.

22.6.4. The EAC, after deliberation, **recommended** for grant of Terms of Reference to of Expansion of Rohini Opencast Coal Mine with production capacity of 3.30 to 4.05 MTPA (increase of 0.75 MTPA) in mine lease area of with increase in area from 255.68 to 272.55 Ha i.e. increase of 16.87 ha in of M/s Central Coalfields Limited at village Karkatta, Nawadih and Tumang, Tehsil Khalari, District Ranchi (Jharkhand) under the provisions of EIA Notification, 2006 and its amendments therein with specific conditions mentioned below:

Specific condition

- Public Consultation, including public hearing, shall be conducted through concerned SPCB as per the provisions/procedure contained in the EIA Notification, 2006 for information of the stakeholders about the present coal mining operations inviting comments and their redressal. All the issues raised and PP reply should be incorporated in EIA along with its time bound action plan and budgetary provision.*
- PP to submit the latest Certified Compliance Report of existing EC duly inspected by respective IRO of MoEF&CC with EIA-EMP report.*

- (iii) PP to evaluate the green house emission gases from the mine operation and corresponding carbon absorption plan.
- (iv) PP shall apply for star rating in Ministry of Coal and the detail of its application filled or rating obtained to be furnished by PP at the time of submission of EIA- EMP report, which should be more than 4.0.
- (v) PP shall prepare the Mining Plan in such a manner that condition prescribed by EAC shall intact from environment point of view. EIA-EMP shall accordingly be prepared on the suggested stipulation with point-wise compliance & in accordance with recommendations of Mining Plan
- (vi) PP shall submit letter from PCCF that mine does not fall under corridors of any National Park and Wildlife Sanctuary and does not involve any violation of forest area and wild sanctuary with certified map showing distance of nearest sanctuary
- (vii) Stage-I Forest Clearance for diversion for non-forestry activity shall be submitted, if applicable.
- (viii) PP should submit the real time aerial footage and video of the Mining lease area made through drone with a special focus on the area adjacent to the rivers.
- (ix) PP shall prepare a Plan for implementation of Continuous Automatic Air Quality Monitoring Station (CAAQMS) at mine site or its vicinity.
- (x) Permission for ground water withdrawal shall be obtained from Central Ground Water Authority (CGWA) only for mining activity.

Monitoring

- (i) In addition to existing data already collected (if any), PP to carry out source apportionate study of polluting units in buffer zone of mines w.r.t ecosystem services and biodiversity of the area. PP shall collect one season baseline data of all environmental parameters and shall compare with the data of earlier data collected for cumulative assessment of area.
- (ii) Air pollution impact predication shall be conducted by considering the maximum values.
- (iii) Wind rose pattern in the area should be reviewed and accordingly location of AAQMS shall be planned by the collection of air quality data. Monitoring location for collecting baseline data should cover overall the 10 km buffer zone i.e. dispersed in 10 km buffer area.
- (iv) The PP while carrying out base line monitoring should submit the photograph of monitoring stations & sampling locations. The photograph should bear the date, time, latitude & longitude of the monitoring station/sampling location. In addition to this PP should submit the original test reports and NABL/MoEF&CC certificates of the labs which will analyze the samples.
- (v) The impact of mine operation on the Damodar river flowing adjacent to the eastern boundary of the mine with its mitigation measures adopted should be clearly spell in the EIA/EMP report with flood plain protection measures.
- (vi) Heavy metals including other parameters in surface water quality shall be analyzed and provided in EIA Report. Further, detailed mineralogical and chemical composition of the mineral and percentage of free silica in Air quality to be furnished in EIA/EMP report
- (vii) PP shall submit design details of all Air Pollution control equipment (APCEs) to be implemented as part of Environment Management Plan vis-à-vis reduction in concentration of emission for each APCEs.

- (viii) *A detailed traffic study along with presence of habitation in 100 mts distance from both side of road, the impact on the air quality with its proper measures and plan of action with timeline for widening of road. The project will increase the no. of vehicle along the road which will indirectly contribute to carbon emission so what will be the compensatory action plan should be clearly spell out in EIA/ EMP report.*
- (ix) *The socio-economic study to be conducted with actual survey report and a comparative assessment to be provided from the census data of 2011-part B to be provided in EIA/ EMP report also economic status of the study area and what economically project will contribute should be clearly mention. The study should also include the status of infrastructural facilities and amenities present in the study area and a comparative assessment with census data of 2011 part A to be provided and to link it with the initialization and quantification of need based survey for CSR activities to be followed.*

Infrastructure & Mine Management

- (x) *Input conveyor belt with silo loading should be proposed and installed for transportation of coal till railway siding. No transportation of coal by trucks/dumpers shall be proposed in EIA/EMP.*
- (xi) *PP shall submit detailed project report for implementation of railway siding for evacuation of coal with its target date of completion. Target date should be such that railway siding should be operational within 2 years of commissioning of mine operations. Forest Clearance shall be submitted if railway siding land comes under forest land.*
- (xii) *PP shall explore the possibilities of utilization of OB material for different purposes (in construction of roads, manufacture of artificial sand, aggregates, use for farmers etc.) and accordingly Plan shall be included in EIA/EMP Report.*
- (xiii) *PP shall provide the details of mining technology/methodology proposed to be adopted for coal mining operations and its associated environmental benefits of using from Climate Change perspective by i.e. the likely emissions of greenhouse gases from the mining operations to be estimated with the modelling for future prediction related to the climate of that study area.*
- (xiv) *PP should clearly bring out that what is the specific diesel consumption ~ (Liters/Tonne of total excavation & mineral) and steps to be taken for reduction of the same. Year-wise target for reduction in the specific diesel consumption needs to be submitted.*
- (xv) *PP shall provide provision of integrated mine plan and mine reclamation cum land form / land scape plan for both underground and open cast coal mining projects. The plan must show the predicted post mining reclaimed and reformed surface by regarding and reshaping to reduce its height as close to the original surface level and proper sloping benching and terracing of external dump should be clearly brought out in the post mine closure plan. This would also include water management strategies such as surface water catchment and drainage paths etc. of post mining land surface. The final mine void shall be reduced and brought as near as ground so that land can be restored and reclaimed*
- (xvi) *Details of toe wall and garland drain to be constructed along the OB dump.*
- (xvii) *Reclamation to be done using geo-texturing technique of the dumps close to habitation and a cause of visual intrusion. Impact of proposed project/activity on hydrological regime of the area*

shall be assessed and report be submitted. Hydrological studies as per GEC 2015 guidelines to be prepared and submitted.

- (xviii) PP should bring out the awareness campaign to be carried out on various Environmental issues, practical training facility to be provided to the environmental engineer/diplomaholders, mining engineer/diploma holders, geologists, and other trades related to mining operations. Target for the same needs to be submitted.*
- (xix) Details of Fog mist sprayer (static water sprinklers) at coal stock yard and along the permanent haul road.*
- (xx) PP shall propose to use LNG/CNG based mining machineries and trucks for mining operation and transportation of coal.*
- (xxi) Details of black topping of permanent haul roads. No trucks or vehicles used for transportation of Coal to be passed by village roads or roads located near to the villages*

Other

- (xxii) Project proponent to prepare Environmental Cost Benefit Analysis for the project in EIA/EMP Report*
- (xxiii) Detailed Social Impact Assessment shall be prepared in villages for Rehabilitation and Re-settlement. R & R Activity shall be proposed with timeline and allotted fund with the approval of District Commissioner/collector. PP shall be submitting R & R in respect of SCs /STs and other weaker sections of the society in the study area, a need based sample survey, family-wise, should be undertaken to assess their requirements, and action programs prepared and submitted accordingly, integrating the sectoral programmes of line departments of the State Government.*

Agenda No. 22.7

Sahapur East Underground Coal Mine Project of 0.70 MTPA in mine lease area of 659 Ha by M/s Chowgule and Company Private Limited located at villages Chunia, Senduri, Kathotiya, Khamaria, Kholhar Sohagpur and Pali Tehsil Shadol, District Umari, Madhya Pradesh- For Amendment in Terms of Reference- reg

[Online Proposal No. IA/MP/CMIN/236180/2021; F No. J-11015/280/2010-IA-II(M)]

22.7.1 The proposal is for amendment in Terms of Reference to Sahapur East Underground Coal Mine Project of 0.70 MTPA in mine lease area of 659 Ha by M/s Chowgule and Company Private Limited located at villages Chunia, Senduri, Kathotiya, Khamaria, Kholhar Sohagpur and Pali Tehsil Shadol, District Umari (Madhya Pradesh).

22.7.2 The EAC during deliberations noted the following:

Earlier MoEF&CC granted Terms of Reference to aforesaid project on 7th July, 2021 vide letter no. J-11015/280/2010-IA-II(M). Now PP is requesting to change in configuration due to change in project area since there is decrease in agricultural and grazing land coming within the mine lease and increase

in the forest area as given following table:

Plant Equipment /Facility	Existing Configuration	Proposed Configuration	Final Configuration after Amendment	Remarks
Mine Lease Area	693 Ha	-34 Ha	659 Ha	As per the Tender Document
Forest Area	9.199 Ha	+3.534 Ha	12.733 Ha	Forest Area revised as per the DGPS survey

The changes as in land usage pattern of the project is as follows:

Pre-mining land use details (Area in ha)

S. No.	Land Use	Within ML Area (ha)	Outside ML Area (ha)	Total (Ha)
1	Agricultural Land	522.794		522.794
2	Forest Land	12.733		12.733
3	Wasteland	0.000		0.000
4	Grazing Land	5.995		5.995
5	Surface Water Bodies	27.544		27.544
6	Settlements	60.071		60.071
7	Others (Specify)	29.863 (Govt Land – 18.745 Cremation ground – 2.015 Road – 9.002, Khal Khaddar – 0.101)		29.863
	Total Project Area =	659		659

Post Mining Land Use Details (Area in ha)

S. No.	Land use	Land use (ha)				
		Plantation	Water Body	Public Use	Undisturbed	Total
1	External OB Dump					
2	Top Soil Dump					0.00
3	Excavation					0.00

4	Roads	1.998		2.17		4.168
5	Built-up Area	6.352	0.40	2.70		9.752
6	Green Belt					
7	Undisturbed Area				642.88	642.88
8	Safety Zone / Rationalization Area					
9	Diversion / Below River / Nala / Canal		2.20			2.20
10	Water Body					
11	Staff Colony					
	Total Area =	8.350	2.60	4.87	642.88	659

12.733 ha of forest land has been reported to be involved in the project. Approval under the Forest (Conservation) Act, 1980 for diversion of 12.733 ha of forest land for non-forestry purposes is process (Proposal no. FP/MP/MIN/147526/2021)

22.7.3 *The EAC, after deliberation observed the changes in area wherein there is increase in forest area after DGPS survey. Based on changes proposed, **EAC recommended** the proposal for grant of amendment in Terms of Reference to Sahapur East Underground Coal Mine Project of 0.70 MTPA in mine lease area of 659 Ha by M/s Chowgule and Company Private Limited located at villages Chunia, Senduri, Kathotiya, Khamaria, Kholhar Sohagpur and Pali Tehsil Shadol, District Umaria, Madhya Pradesh under EIA Notification, 2006 and subsequent amendments/circulars thereto subject to the compliance of the existing ToR dated 07th July, 2021 vide letter no. J-11015/280/2010-LA-II(M) with additional specific conditions for environmental safeguards as given below:*

- (i) A detailed hydrological survey of the Ghinachunia nallah, regarding its catchment area, flow volume and length of the stretch to be diverted to be provided with proper diversion plan in EIA/EMP report.*
- (ii) PP shall authenticate data of HFL for design and construction of mouth of the Underground Inclines.*
- (iii) No mining activity shall be proposed on grazing land till the alternate land is provided of same area to the community. PP shall not plan any non-essential infrastructure of mining operation on non-coal bearing forest area other than proposed by PP.*
- (iv) PP shall propose to use LNG/CNG based mining machineries and trucks for mining operation and transportation of coal.*
- (v) No trucks or vehicles used for transportation of Coal to be passed by village roads or roads located near to the villages*

- (vi) *A detailed traffic study along with presence of habitation in 100 mts distance from both side of road, the impact on the air quality with its proper measures and plan of action with timeline for widening of road. The project will increase the no. of vehicle along the road which will indirectly contribute to carbon emission so what will be the compensatory action plan should be clearly spell out in EIA/ EMP report*
- (vii) *The budgetary provision of haul road and its construction with time bound action plan i.e. within 8 months with consent of the competent authority, from the grant of EC should be furnished in EIA/ EMP report*
- (viii) *The socio-economic study to conducted with actual survey report and a comparative assessment to be provided from the census data of 2011-part B to be provided in EIA/ EMP report also economic status of the study area and what economically project will contribute should be clearly mention. The study should also include the status of infrastructural facilities and amenities present in the study area and a comparative assessment with census data of 2011part A to be provided and to link it with the initialization and quantification of need based surveyfor CSR activities to be followed.*
- (ix) *PP to avoid the to extend possible to use forest land for non-forestry activities and propose adequate plantation in the ration of 10 times if being used for infrastructure. Plantation of fruitbearing trees should be planted and to be taken care of for 10-15 years with its budgetary provision and time bound action Plan.*
- (x) *The Ecology and biodiversity study should include likely impact of land use change in terms of use of forest area for non -forestry activity in relation to the climate change of that area and what will be the affect after adopting the mitigation measures.*

The meeting ended with thanks to the Chair.

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

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

(a) Statutory compliance

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

(b) Air quality monitoring and preservation

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

- ensure the Coal Industry Standards notified vide GSR 742 (E) dated 25th September, 2000 and as amended from time to time by the Central Pollution Control Board. Data on ambient air quality and heavy metals such as Hg, As, Ni, Cd, Cr and other monitoring data shall be regularly reported to the Ministry/Regional Office and to the CPCB/SPCB.
- (iii) Transportation of coal, to the extent permitted by road, shall be carried out by covered trucks/conveyors. Effective control measures such as regular water/mist sprinkling/rain gun etc shall be carried out in critical areas prone to air pollution (with higher values of PM10/PM2.5) such as haul road, loading/unloading and transfer points. Fugitive dust emissions from all sources shall be controlled regularly. It shall be ensured that the Ambient Air Quality parameters conform to the norms prescribed by the Central/State Pollution Control Board.
 - (iv) The transportation of coal shall be carried out as per the provisions and route envisaged in the approved Mining Plan or environment monitoring plan. Transportation of the coal through the existing road passing through any village shall be avoided. In case, it is proposed to construct a 'bypass' road, it should be so constructed so that the impact of sound, dust and accidents could be appropriately mitigated.
 - (v) Vehicular emissions shall be kept under control and regularly monitored. All the vehicles engaged in mining and allied activities shall operate only after obtaining 'PUC' certificate from the authorized pollution testing centres.
 - (vi) Coal stock pile/crusher/feeder and breaker material transfer points shall invariably be provided with dust suppression system. Belt-conveyors shall be fully covered to avoid airborne dust. Side cladding all along the conveyor gantry should be made to avoid air borne dust. Drills shall be wet operated or fitted with dust extractors.
 - (vii) Coal handling plant shall be operated with effective control measures w.r.t. various environmental parameters. Environmental friendly sustainable technology should be implemented for mitigating such parameters.
- (c) Water quality monitoring and preservation**
- (i) The effluent discharge (mine waste water, workshop effluent) shall be monitored in terms of the parameters notified under the Water Act, 1974 Coal Industry Standards vide GSR 742 (E) dated 25th September, 2000 and as amended from time to time by the Central Pollution Control Board.
 - (ii) The monitoring data shall be uploaded on the company's website and displayed at the project site at a suitable location. The circular No.J-20012/1/2006-1A.11 (M) dated 27th May, 2009 issued by Ministry of Environment, Forest and Climate Change shall also be referred in this regard for its compliance.
 - (iii) Regular monitoring of ground water level and quality shall be carried out in and

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

- presence of river/rivulet/pond/lake etc, shall be prepared and implemented by the project proponent. The surface drainage plan and/or any diversion of natural water courses shall be as per the approved Mining Plan/EIA/EMP report and with due approval of the concerned State/GoI Authority. The construction of embankment to prevent any danger against inrush of surface water into the mine should be as per the approved Mining Plan and as per the permission of DGMS or any other authority as prescribed by the law.
- (xi) The project proponent shall take all precautionary measures to ensure riverine/riparian ecosystem in and around the coal mine up to a distance of 5 km. A riverine/riparian ecosystem conservation and management plan should be prepared and implemented in consultation with the irrigation / water resource department in the state government.
- (d) Noise and Vibration monitoring and prevention**
- (i) Adequate measures shall be taken for control of noise levels as per Noise Pollution Rules, 2016 in the work environment. Workers engaged in blasting and drilling operations, operation of HEMM, etc shall be provided with personal protective equipments (PPE) like ear plugs/muffs in conformity with the prescribed norms and guidelines in this regard. Adequate awareness programme for users to be conducted. Progress in usage of such accessories to be monitored.
- (ii) Controlled blasting techniques shall be practiced in order to mitigate ground vibrations, fly rocks, noise and air blast etc., as per the guidelines prescribed by the DGMS.
- (i) The noise level survey shall be carried out as per the prescribed guidelines to assess noise exposure of the workmen at vulnerable points in the mine premises, and report in this regard shall be submitted to the Ministry/RO on six-monthly basis.
- (e) Mining Plan**
- (i) Mining shall be carried out under strict adherence to provisions of the Mines Act 1952 and subordinate legislations made there-under as applicable.
- (ii) Mining shall be carried out as per the approved mining plan (including Mine Closure Plan) abiding by mining laws related to coal mining and the relevant circulars issued by Directorate General Mines Safety (DGMS).
- (iii) No mining shall be carried out in forest land without obtaining Forestry Clearance as per Forest (Conservation) Act, 1980.
- (ii) Efforts should be made to reduce energy and fuel consumption by conservation, efficiency improvements and use of renewable energy.
- (f) Land reclamation**
- (i) Digital Survey of entire lease hold area/core zone using Satellite Remote

- Sensing survey shall be carried out at least once in three years for monitoring land use pattern and report in 1:50,000 scale or as notified by Ministry of Environment, Forest and Climate Change (MOEFCC) from time to time shall be submitted to MOEFCC/Regional Office (RO).
- (ii) The final mine void depth should preferably be as per the approved Mine Closure Plan, and in case it exceeds 40 m, adequate engineering interventions shall be provided for sustenance of aquatic life therein. The remaining area shall be backfilled and covered with thick and alive top soil. Post-mining land be rendered usable for agricultural/forestry purposes and shall be diverted. Further action will be treated as specified in the guidelines for Preparation of Mine Closure Plan issued by the Ministry of Coal dated 27th August, 2009 and subsequent amendments.
 - (iii) The entire excavated area, backfilling, external OB dumping (including top soil) and afforestation plan shall be in conformity with the “during mining”/“post mining” land-use pattern, which is an integral part of the approved Mining Plan and the EIA/EMP submitted to this Ministry. Progressive compliance status vis-a-vis the post mining land use pattern shall be submitted to the MOEFCC/RO.
 - (iv) Fly ash shall be used for external dump of overburden, backfilling or stowing of mine as per provisions contained in clause (i) and (ii) of subparagraph (8) of fly ash notification issued vide SO 2804 (E) dated 3rd November, 2009 as amended from time to time. Effort shall be made to utilize gypsum generated from Flue Gas Desulfurization (FGD), if any, along with fly ash for external dump of overburden, backfilling of mines. Compliance report shall be submitted to Regional Office of MoEF&CC, CPCB and SPCB.
 - (v) Further, it may be ensured that as per the time schedule specified in mine closure plan it should remain live till the point of utilization. The top soil shall temporarily be stored at earmarked site(s) only and shall not be kept unutilized. The top soil shall be used for land reclamation and plantation purposes. Active OB dumps shall be stabilised with native grass species to prevent erosion and surface run off. The other overburden dumps shall be vegetated with native flora species. The excavated area shall be backfilled and afforested in line with the approved Mine Closure Plan. Monitoring and management of rehabilitated areas shall continue until the vegetation becomes self-sustaining. Compliance status shall be submitted to the Ministry of Environment, Forest and Climate Change/ Regional Office.
 - (vi) The project proponent shall make necessary alternative arrangements, if grazing land is involved in core zone, in consultation with the State government to provide alternate areas for livestock grazing, if any. In this context, the project proponent shall implement the directions of Hon'ble Supreme Court with regard to acquiring grazing land.

(g) Green Belt

- (i) The project proponent shall take all precautionary measures during mining operation for conservation and protection of endangered/endemic flora/fauna, if any, spotted/reported in the study area. The Action plan in this regard, if any, shall be prepared and implemented in consultation with the State Forest and Wildlife Department.
- (ii) Greenbelt consisting of 3-tier plantation of width not less than 7.5 m shall be developed all along the mine lease area as soon as possible. The green belt comprising a mix of native species (endemic species should be given priority) shall be developed all along the major approach/ coal transportation roads.

(h) Public hearing and Human health issues

- (i) Adequate illumination shall be ensured in all mine locations (as per DGMS standards) and monitored weekly. The report on the same shall be submitted to this ministry & its RO on six-monthly basis.
 - (ii) The project proponent shall undertake occupational health survey for initial and periodical medical examination of the personnel engaged in the project and maintain records accordingly as per the provisions of the Mines Rules, 1955 and DGMS circulars. Besides regular periodic health check-up, 20% of the personnel identified from workforce engaged in active mining operations shall be subjected to health check-up for occupational diseases and hearing impairment, if any, as amended time to time.
 - (iii) Personnel (including outsourced employees) working in core zone shall wear protective respiratory devices and shall also be provided with adequate training and information on safety and health aspects.
 - (iv) Implementation of the action plan on the issues raised during the public hearing shall be ensured. The project proponent shall undertake all the tasks/measures as per the action plan submitted with budgetary provisions during the public hearing. Land oustees shall be compensated as per the norms laid down in the R&R policy of the company/State Government/Central Government, as applicable.
 - (v) The project proponent shall follow the mitigation measures provided in this Ministry's OM No.Z-11013/5712014-IA.II (M) dated 29th October, 2014, titled 'Impact of mining activities on habitations-issues related to the mining projects wherein habitations and villages are the part of mine lease areas or habitations and villages are surrounded by the mine lease area'.
- (i) Corporate Environment Responsibility**
- (i) The project proponent shall comply with the provisions contained in this Ministry's OM vide F.No.22-65/2017-IA.III dated 1st May 2018, as applicable, regarding Corporate Environment Responsibility.
 - (ii) The company shall have a well laid down environmental policy duly approved by the Board of Directors. The environmental policy should prescribe for standard operating procedures to have proper checks and balances and to

- bring into focus any infringements/deviation/violation of the environmental/forest/wildlife norms/conditions. The company shall have defined system of reporting infringements/deviation/violation of the environmental/forest/wildlife norms/conditions and/or shareholders/stake holders.
- (iii) A separate Environmental Cell both at the project and company head quarter level, with qualified personnel shall be set up under the control of senior Executive, who will directly to the head of the organization.
 - (iv) Action plan for implementing EMP and environmental conditions along with responsibility matrix of the company shall be prepared and shall be duly approved by competent authority. The year wise funds earmarked for environmental protection measures shall be kept in separate account and not to be diverted for any other purpose. Year wise progress of implementation of action plan shall be reported to the Ministry/Regional Office along with the Six Monthly Compliance Report.
 - (v) Self environmental audit shall be conducted annually. Every three years third party environmental audit shall be carried out.
 - (j) Miscellaneous**
 - (i) The project proponent shall make public the environmental clearance granted for their project along with the environmental conditions and safeguards at their cost by prominently advertising it at least in two local newspapers of the District or State, of which one shall be in the vernacular language within seven days and in addition this shall also be displayed in the project proponent's website permanently.
 - (ii) The copies of the environmental clearance shall be submitted by the project proponents to the Heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt.
 - (iii) The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and update the same on half-yearly basis.
 - (iv) The project proponent shall monitor the criteria pollutants level namely; PM₁₀, SO₂, NO_x(ambient levels) or critical sectoral parameters, indicated for the projects and display the same at a convenient location for disclosure to the public and put on the website of the company.
 - (v) The project proponent shall submit six-monthly reports on the status of the compliance of the stipulated environmental conditions on the website of the ministry of Environment, Forest and Climate Change at environment clearance portal.
 - (vi) The project proponent shall follow the mitigation measures provided in this Ministry's OM No.Z-11013/5712014-IA.II (M) dated 29th October, 2014, titled 'Impact of mining activities on habitations-issues related to the mining

- projects wherein habitations and villages are the part of mine lease areas or habitations and villages are surrounded by the mine lease area’.
- (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.

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

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

I. Statutory compliance:

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

II. Air quality monitoring and preservation

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

SPCB

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

III. Water quality monitoring and preservation

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

- iii. Regular monitoring of ground water level and quality shall be carried out in and around the mine lease area by establishing a network of existing wells and constructing new piezometers during the mining operations. The monitoring of ground water levels shall be carried out four times a year i.e. pre-monsoon, monsoon, post-monsoon and winter. The ground water quality shall be monitored once a year, and the data thus collected shall be sent regularly to MOEFCC/RO.
- iv. Monitoring of water quality upstream and downstream of water bodies shall be carried out once in six months and record of monitoring data shall be maintained and submitted to the Ministry of Environment, Forest and Climate Change/Regional Office.
- v. Ground water, excluding mine water, shall not be used for mining operations. Rainwater harvesting shall be implemented for conservation and augmentation of ground water resources.
- vi. The project proponent shall not alter major water channels around the site. Appropriate embankment shall be provided along the side of the river/nallah flowing near or adjacent to the mine. The embankment constructed along the river/nallah boundary shall be of suitable dimensions and critical patches shall be strengthened by stone pitching on the river front side, stabilized with plantation so as to withstand the peak water pressure preventing any chance of mine inundation.
- vii. Garland drains (of suitable size, gradient and length) around the critical areas i.e. mine shaft and low lying areas, shall be designed keeping at least 50% safety margin over and above the peak sudden rainfall and maximum discharge in the area adjoining the mine sites. The sump capacity shall also provide adequate retention period to allow proper settling of silt material of the surface runoff
- viii. The water pumped out from the mine, after siltation, shall be utilized for industrial purpose viz. watering the mine area, roads, green belt development etc. The drains shall be regularly desilted particularly after monsoon and maintained properly.
- ix. Industrial waste water from coal handling plant and mine water shall be properly collected and treated so as to conform to the standards prescribed under the Environment (Protection) Act, 1986 and the Rules made thereunder, and as amended from time to time. Oil and grease trap shall be installed before discharge of workshop effluent. Sewage treatment plant of adequate capacity shall be installed for treatment of domestic waste water.
- x. Adequate groundwater recharge measures shall be taken up for augmentation of ground water. The project authorities shall meet water requirement of nearby village(s) in case the village wells go dry due to dewatering of mine.
- xi. The surface drainage plan including surface water conservation plan for the area of influence affected by the said mining operations shall be prepared,

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

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

IV. Noise and Vibration monitoring and prevention

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

V. Mining Plan

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

conservation, efficiency improvements and use of renewable energy.

VI. Land reclamation

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

VII. Green Belt

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

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

VIII. Public hearing and Human health issues

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

IX. Corporate Environment Responsibility

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

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

X. Miscellaneous

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

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

Standard EC Conditions for Coal Washery Project

I. Statutory compliance:

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

II. Air quality monitoring and preservation

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

State Pollution Control Board. Online ambient air quality monitoring stations may also be installed in addition to the regular monitoring stations as per the requirement and/or in consultation with the SPCB. Monitoring of heavy metals such as Hg, As, Ni, Cd, Cr, etc to be carried out at least once in six months.

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

III. Water quality monitoring and preservation

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

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

- xii. Monitoring of water quality upstream and downstream of water bodies shall be carried out once in six months and record of monitoring data shall be maintained and submitted to the Ministry of Environment, Forest and Climate Change/Regional Office.
- xiii. The project proponent shall take all precautionary measures to ensure riverine/ riparian ecosystem in and around the coal mine up to a distance of 5 km. A riverine/riparian ecosystem conservation and management plan should be prepared and implemented in consultation with the irrigation / water resource department in the state government

IV. Noise and Vibration monitoring and prevention

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

V. Coal beneficiation

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

VI. Green Belt

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

VII. Public hearing and Human health issues

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

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

VIII. Corporate Environment Responsibility

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

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

IX. Miscellaneous

- i. The project proponent shall make public the environmental clearance granted for their project along with the environmental conditions and safeguards at their cost by prominently advertising it at least in two local newspapers of the District or State, of which one shall be in the vernacular language within seven days and in addition this shall also be displayed in the project proponent's website permanently.
- ii. The copies of the environmental clearance shall be submitted by the project proponents to the Heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt.
- iv. The project proponent shall upload the status of compliance of the stipulated environmental clearance conditions, including results of monitored data on their website and update the same on half-yearly basis.
- v. The project proponent shall monitor the criteria pollutants level namely; PM₁₀, SO₂, NO_x (ambient levels) or critical sectoral parameters, indicated for the projects and display the same at a convenient location for disclosure to the public and put on the website of the company.
- 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.

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 along with a layout, the specific technology used and the source of coal should be provided.
- vi. The EIA-EMP Report should cover the impacts and management plan for the project of the capacity for which EC is sought and the impacts of specific activities, including the technology used and coal used, on the environment of the area (within 10km radius), and the environmental quality of air, water, land, biotic community, etc. through collection of data and information, generation of data on impacts for the rated capacity. Cumulative impacts for air and water should be a part of EIA in case coal mine, TPP and other washeries are located within 10km radius. The EIA should also include mitigative measures needed to minimize adverse environmental impacts.
- vii. A Study Area Map of the core zone as well as the 10km area of buffer zone showing major industries/mines and other polluting sources should be submitted. These maps shall also indicate the migratory corridors of fauna, if any and areas of endangered fauna; plants of medicinal and economic importance; any ecologically sensitive areas within the 10 km buffer zone; the shortest distance from the National Park/WL Sanctuary Tiger Reserve, etc. along with the comments of the Chief Wildlife Warden of the State Govt.
- viii. Data of one-season (non-monsoon) primary- base-line data on environmental quality of air (PM10, PM2.5, SOx and NOx, noise, water (surface and groundwater), soil be submitted.
- ix. The wet washery should generally utilize mine water only. In case mine water is not available, the option of storage of rain water and its use should be examined. Use of surface water and ground water should be avoided.
- x. Detailed water balance should be provided. The break-up of water requirement as per different activities in the mining operations vis-a-vis washery should be given. If the source of water is from surface water and/or ground water, the same may be justified besides obtaining approval of the

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

by the Board of Directors.

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

ANNEXURE-V

GENERIC TOR FOR AN OPENCAST COALMINE PROJECT for EC

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

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

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

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

- (xii) Break-up of lease/project area as per mining plan should be provided.
- (xiii) Impact of changes in the land use due to the project if the land is predominantly agricultural land/forestland/grazing land, should be provided.
- (xiv) One-season (other than monsoon) primary baseline data on environmental quality - air (PM₁₀, 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 through the ML and adjoining the lease/project and the impact on the existing users and impacts of mining operations thereon.
 - (xx) Detailed water balance should be provided. The break-up of water requirement for the various mine operations should be given separately.
 - (xxi) Source of water for use in mine, sanction of the Competent Authority in the State Govt. and impacts vis-à-vis the competing users in the upstream and downstream of the project site, should be given.

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

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

* As a representative example

Table 2 : Stage Wise Cumulative Plantation

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

10.	34- 37 th Year (Post -mining)										
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* As a representative example

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

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

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

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

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

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

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

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

- (xxxvii) Details of R&R. Detailed project specific R&R Plan with data on the existing socio- economic status of the population (including tribals, SC/ST, BPL families) found in the study area and broad plan for resettlement of the displaced population, site for the resettlement colony, alternate livelihood concerns/employment for the displaced people, civic and housing amenities being offered, etc and costs along with the schedule of the implementation of the R&R Plan should be given.
- (xxxviii) CSR Plan along with details of villages and specific budgetary provisions (capital and recurring) for specific activities over the life of the project should be given.
- (xxxix) Corporate Environment Responsibility:
 - a) The Company must have a well laid down Environment Policy approved by the Board of Directors.
 - b) The Environment Policy must prescribe for standard operating process/procedures to bring into focus any infringements/deviation/violation of the environmental or forest norms/conditions.
 - c) The hierarchical system or Administrative Order of the company to deal with environmental issues and for ensuring compliance with the environmental clearance conditions must be furnished.
 - d) To have proper checks and balances, the company should have a well laid down system of reporting of non-compliances/violations of environmental norms to the Board of Directors of the company and/or shareholders or stakeholders at large.
- (xl) Details on Public Hearing should cover the information relating to notices issued in the newspaper, proceedings/minutes of Public Hearing, the points raised by the general public and commitments made by the proponent and the action proposed with budgets in suitable time frame. These details should be presented in a tabular form. If the Public Hearing is in the regional language, an authenticated English Translation of the same should be provided.
- (xli) In built mechanism of self-monitoring of compliance of environmental regulations should be indicated.
- (xlii) Status of any litigations/ court cases filed/pending on the project should be provided.
- (xliii) Submission of sample test analysis of Characteristics of coal: This should include details on grade of coal and other characteristics such as ash content, S and heavy metals including levels of Hg, As, Pb, Cr etc.
- (xliv) Copy of clearances/approvals such as Forestry clearances, Mining Plan Approval, mine closer plan approval. NOC from Flood and Irrigation Dept. (if req.), etc. wherever applicable.

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

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

**GENERIC TORs FOR AN UNDERGROUND COALMINE
PROJECT**

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

- embankments/bunds, proposed diversion/re-channelling of the water courses, etc., approach roads, major haul roads, etc should be indicated.
- (vii) Original land use (agricultural land/forestland/grazing land/wasteland/water bodies) of the area should be provided as per the tables given below. Impacts of project, if any on the land use, in particular, agricultural land/forestland/grazing land/water bodies falling within the lease/project and acquired for mining operations should be analyzed. Extent of area under surface rights and under mining rights should be specified.

S.N	ML/Project Land use	Area under Surface Rights (ha)	Area Under Mining Rights (ha)	Area under Both (ha)
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1.	Agricultural land			
2.	Forest Land			
3.	Grazing Land			
4.	Settlements			
5.	Others (specify)			

Area under Surface Rights

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

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

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

- (x) Details of mining methods, technology, equipment to be used, etc., rationale for selection of specified technology and equipment proposed to be used vis-à-vis the potential impacts should be provided.
- (xi) Impact of mining on hydrology, modification of natural drainage, diversion and channeling of the existing rivers/water courses flowing through the ML and adjoining the lease/project and the impact on the existing users and impacts of mining operations thereon.
- (xii) One-season (other than monsoon) primary baseline data on environmental quality - air (PM₁₀, PM_{2.5}, SO_x, NO_x and heavy metals such as Hg, Pb, Cr, As, etc), noise, water (surface and groundwater), soil - along with one-season met data coinciding with the same season for AAQ collection period should be provided.
- (xiii) Map (1: 50, 000 scale) of the study area (core and buffer zone) showing the location of various sampling stations superimposed with location of habitats, other industries/mines, polluting sources, should be provided. The number and location of the sampling stations in both core and buffer zones should be selected on the basis of size of lease/project area, the proposed impacts in the downwind (air)/downstream (surface water)/groundwater regime (based on flow). One station should be in the upwind/upstream/non-impact/non-polluting area as a control station. The monitoring should be as per CPCB guidelines and parameters for water testing for both ground water and surface water as per ISI standards and CPCB classification wherever applicable. Observed values should be provided along with the specified standards.
- (xiv) Impact of mining and water abstraction from the mine on the hydrogeology and groundwater regime within the core zone and 10 km buffer zone including long-term monitoring measures should be provided. Details of rainwater harvesting and measures for recharge of groundwater should be reflected in case there is a declining trend of groundwater availability and/or if the area falls within dark/grey zone.
- (xv) Study on subsidence including modeling for prediction, mitigation/prevention of subsidence, continuous monitoring measures, and safety issues should be carried out.
- (xvi) Detailed water balance should be provided. The break up of water requirement as per different activities in the mining operations, including use

- of water for sand stowing should be given separately. Source of water for use in mine, sanction of the Competent Authority in the State Govt. and impacts vis-à-vis the competing users should be provided.
- (xvii) Impact of choice of mining method, technology, selected use of machinery and impact on air quality, mineral transportation, coal handling & storage/stockyard, etc, Impact of blasting, noise and vibrations should be provided.
 - (xviii) Impacts of mineral transportation within the mining area and outside the lease/project along with flow-chart indicating the specific areas generating fugitive emissions should be provided. Impacts of transportation, handling, transfer of mineral and waste on air quality, generation of effluents from workshop etc, management plan for maintenance of HEMM and other machinery/equipment should be given. Details of various facilities such as rest areas and canteen for workers and effluents/pollution load emanating from these activities should also be provided.
 - (xix) Effort be made to reduce/eliminate road transport of coal inside and outside mine and for mechanized loading of coal through CHP/ Silo into wagons and trucks/tippers.
 - (xx) Details of various facilities to be provided to the workers in terms of parking, rest areas and canteen, and effluents/pollution load resulting from these activities should also be given.
 - (xxi) The number and efficiency of mobile/static water sprinkling system along the main mineral transportation road inside the mine, approach roads to the mine/stockyard/siding, and also the frequency of their use in impacting air quality should be provided.
 - (xxii) Impacts of CHP, if any on air and water quality should be given. A flow chart showing water balance along with the details of zero discharge should be provided.
 - (xxiii) Conceptual Final Mine Closure Plan and post mining land use and restoration of land/habitat to the pre- mining status should be provided. A Plan for the ecological restoration of the mined out area and post mining land use should be prepared with detailed cost provisions. Impact and management of wastes and issues of re-handling (wherever applicable) and backfilling and progressive mine closure and reclamation should be furnished.
 - (xxiv) Greenbelt development should be undertaken particularly around the transport route and CHP. Baseline data on the health of the population in the impact zone and measures for occupational health and safety of the personnel and manpower for the mine should be submitted.
 - (xxv) Cost of EMP (capital and recurring) should be included in the project cost and for progressive and final mine closure plan.
 - (xxvi) Details of R&R. Detailed project specific R&R Plan with data on the existing socio- economic status of the population (including tribals, SC/ST, BPL

- families) found in the study area and broad plan for resettlement of the displaced population, site for the resettlement colony, alternate livelihood concerns/employment for the displaced people, civic and housing amenities being offered, etc and costs along with the schedule of the implementation of the R&R Plan should be given.
- (xxvii) CSR Plan along with details of villages and specific budgetary provisions (capital and recurring) for specific activities over the life of the project should be given.
- (xxviii) Corporate Environment Responsibility:
- The Company must have a well laid down Environment Policy approved by the Board of Directors.
 - 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.
 - 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.
 - 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	Total Forest	Date of FC	Extent of Forest	Balance area for which FC is	Status of appl. For diversion
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(ha)	Land (ha)		Land	yet to be obtained	of forest land
		If more than one provide details of each FC			

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

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

LIST OF PARTICIPANTS OF EAC (COAL) IN 22nd MEETING OF HELD DURING 17th NOVEMBER, 2021 THROUGH VIDEO CONFERENCING

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