

MINUTES OF 28th MEETING OF THE EXPERT APPRAISAL COMMITTEE FOR ENVIRONMENT APPRAISAL OF COAL MINING PROJECTS HELD ON 1st April, 2022 THROUGH VIDEO CONFERENCE.

Confirmation of the Minutes of 27th Meeting of the EAC (Coal) held on 3 - 4 March, 2022: The minutes of the 27th meeting of the EAC held during 3 to 4 March, 2022 as confirmed by the Chairman.

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

Consideration of Proposals: The 28th meeting of the Expert Appraisal Committee (EAC) for coal mining projects was held on, 1st April, 2022 through video conferencing with support NIC team due to Covid-19 lockdown. The EAC considered proposals as per agenda adopted for the meeting. List of participant attended the meeting is annexed. The details of deliberations held & decisions taken in the meeting are as under.

Agenda No. 28.1

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

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

28.1.1 The proposal is for Environment Clearance of Kotre Basantpur Pachmo OCP coal mining Project of 5.0 MTPA production capacity in ML area of 1162.87 Ha by M/s Central Coalfields Limited located in West Bokaro Coal field at villages Pachmo, Basantpur, Tehsil Gumia, District Ramgarh & Bokaro (Jharkhand).

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

- (i) The project is covered in Survey of India toposheet no. 73E/9 and is bounded by latitudes 23°48'12''N to 23°50'38.53''N and longitudes 85°34'11''E to 85°37'55.65''E.
- (ii) Coal linkage of the project is proposed to be dispatched to Steel Plants of the country for metallurgical use through Railway.
- (iii) No Joint venture cartel has been formed for the project.
- (iv) Project does not fall in Critically Polluted Area (CPA), where the MoEF&CC vide its OM dated 13th January 2010 has imposed moratorium on grant of environment clearance.
- (v) Employment generation, project is source to direct employment of about 1100 persons.

- (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, saving of foreign exchange by producing precious coking coal for use of steel plants. Contribution to exchequer
- (vii) Terms of reference were granted vide F. No. IA- J- 11011/18/2019-IA-II(I), Dated: 28.04.2019
- (viii) Total mining lease area as per block allotment is 1162.87 Ha. Mining Plan (Including Progressive Mine Closure Plan) has been approved in the 507th CCL Board held on 23.09.2021.
- (ix) The land usage pattern of the project is as follows

Pre-mining land use details

Particulars	Area in Ha.
Forest	762
Grazing land	0
Agricultural Land	294
Waste Land	91.87
Settlements	10
Surface Water Body	5
Total Area in Ha.	1162.87

As per Remote Sensing data collected in Year 2020.

Land Use during mining: Area in Ha

Description	Forest Area in Ha.	Non-Forest Area in Ha.	Total Area in Ha.
Quarry	496.45	133.15	629.60
External OB Dump	310.06	3.46	313.52
Industrial Area (W/S, S/S, Haul Road, Office etc)	40.49	7.69	48.18
Safety Zone / Green belt	137.15	11.12	148.27
Nalla Diversion	20.11	0.06	20.17
Embankment against Chutua nalla	1.91	1.22	3.13
Total	1006.17	156.7	1162.87

Post-Mining: Area in Ha

SN	Land Use	Plantation	Water Body	Public Use	Un-disturbed	Total (in Ha)
1.	Quarry	420.6	209	0	0	629.60
2.	External OB Dump	313.52	0	0	0	313.52
3.	Embankment against Chutua nalla	3.13	0	0	0	3.13

4.	Infrastructure (W/S, S/S, Office etc.)	27.82	0	0	0	27.82
5.	Road	0	0	20.36	0	20.36
6.	Safety Zone/Green belt	148.27		0	0	148.27
7.	Diverted Nalla	0	20.17	0	0	20.17
Total Area in Ha		913.34	229.17	20.36	0	1162.87

- (x) Total geological reserve reported in the mine lease area is 250.39 MT with 149.65 MT mineable reserve. Out of total mineable reserve of 149.65 MT are available for extraction. Percent of extraction is 100%.
- (xi) 18 seams with thickness ranging from 1 mtr to 12.45 mtr are workable. Grade of coal is Washery Grade-IV, stripping ratio 4.80, while gradient is 8 degree -25 degree.
- (xii) The method of mining to extract coal and OB in Kotre Basantpur Pachmo Opencast mine is with shovel- dumper combination, considering the geo-mining characteristics of this area.
- (xiii) Life of mine is 35 years.
- (xiv) The project has one external OB dumps in an area of 313.52 Ha with 90 m height and 215.57 Mm³ of OB. one internal OB in an area of 393.15 ha with 503.0 Mm³ of OB is envisaged in the project.
- (xv) Total quarry area is 629.40 ha out of which backfilling will be done in 420.6 Ha area. Final mine void will be created in an area of 209 Ha with average depth of 280 m. Backfilled quarry area of 420.6 Ha shall be reclaimed with plantation. Final mine void will be converted into a water body.
- (xvi) Transportation of coal has been proposed by Conveyor belt to nearby kedla washery.
- (xvii) Reclamation Plan in an area of 913.34 Ha comprising of 420.6 Ha of internal dump, 313.52 Ha of external dump, 151.40 Ha of green belt and safety zone, 27.82 Ha land for Infrastructure has also been proposed for reclamation.
- (xviii) 1006.17 Ha forest land has been identified in the project. Forest proposal has been recommended by ED Nodal, Government of Jharkhand to Secretary forest Government of Jharkhand
- (xix) No National Parks, Wildlife Sanctuaries and Eco-Sensitive Zones fall within 10 km boundary of the project.
- (xx) Wildlife conservation plan for Schedule-I species has been prepared.
- (xxi) The ground water level has been reported to be varying between 3 m (Pre-monsoon) to 10.2 m (Pre-monsoon). Total water requirement for the project is 1454 KLD including water demand of colony.
- (xxii) Application for obtaining the NOC of the Central Ground Water Authority has been submitted vide application no: 21-4/793/JH/MIN/2022 Dated: 05.01.2022.
- (xxiii) Public hearing for the project of 5.0 MTY capacity in an area of 1162.87 Ha was conducted in Shiv Mandir, Basantpur Village, Mandu, Ramgarh district on 18.02.2021 and Pachmo Panchayat Bhawan, Pachmo Village, Gomia, Bokaro district on 25.02.2021 respectively under the Chairmanship of Shri Jugnu Minj and Shri. S. Anwar, Additional Collector. Major issues raised in the public hearing include environment, employment, R&R, compensation, health, road,

electricity, education, afforestation, coordination between PAFs and project management etc. It has been proposed to spend around 2% of the capital cost of projects (i.e 2% of Rs. 625.40 Crores = 12.51 Crore) towards compliance of the issues raised during the public consultation of Kotre Basantpur Pachmo OCP.

- (xxiv) The general surface slopes towards the Damodar River, the master drainage in the area. The drainage of the area is controlled by Damodar River, Bokaro River and Chutua Nalla. Chutua Nalla flows from West to East and joins in Bokaro River. 4 nala diversion is required for this project.
- (xxv) No court cases, violation cases are pending against the project of the PP.
- (xxvi) The project involves approx. 1000 project affected families. R&R of the PAPs will be done as per CIL R&R policy and RFTCLAAR Act.
- (xxvii) Total cost of the project is Rs. 625.40 Crores. Cost of production is Rs.1653.56/Tonne. The fund for the CSR is allocated based on 2% of the average net profit of the Company for the three immediately preceding financial years. Environment Management cost is Rs. 164.03 Crore.

28.1.3 The EAC during deliberations noted the followings:

- Kotre-Basantpur-Pachmo OCP is a green field, opencast coal mining project falling in the West Bokaro coalfields, in the Ramgarh and Bokaro districts of Jharkhand.
- Standard ToR to this project was issued electronically vide letter no: IA-J-11011/18/2019-IA-II(I) dated 28.04.2019.
- The Mining Plan and Mine Closure Plan of Kotre-Basantpur-Pachmo OCP (5.00 MTPA/1162.87 Ha.) has been prepared and approved by CCL Board as item no 507.4(15) in its 507th meeting held on 23.09.2021.
- Project proponent i.e., the Central Coalfields Limited (CCL) has planned to take up this project in MDO mode, where in the development and operationalization of the project to be carried out through a mine operator. M/s PMPL-AMR Consortium has been finalized as the MDO operator and the award of work has been done vide work order no: CCL/GM (CMC)/MDO KBP/NIT20/LOA/2021/43 dt. 22.01.2021
- Against total mine lease area of 1162.87 Ha, about 1006.17 Ha forest land is involved for diversion of forest land.
- PP has furnished the request letter to Jharkhand State Pollution Control Board (JSPCB) for providing them the Action plan pertaining to Hazaribagh.
- Project area of Kotre Basantpur Pachmo OCP falls into two districts of Jharkhand namely, Ramgarh and Bokaro. Therefore, public consultation of Kotre Basantpur Pachmo OCP (05 MTPA/ 1162.87 Ha.) was conducted in both Ramgarh dist. and Bokaro Dist. as per the EIA Notification 2006.. Advertisement of public hearing was done Prabhat Khabar and Time of India on 20th January, 2021 in Bokaro District and Prabhat Khabar and Hindustan Times on 13th January, 2021 in Ramgarh district.
- Major issues raised in the public hearing include protection of green area, chutua stream, planting fruit bearing trees, pollution, the bad effect on plants and trees due to accumulation of black dust,

employment to local people, opening of senior secondary school, development of pond, well, borewell for drinking water, plantation near foothill of Jhumra Pahad, air and water pollution due to road transportation of coal, Chatua river should not be polluted, ground water level, plantation of Sakhuwa, Mahua, bhelwa trees.

- PP had proposed to divert 4 streams namely Kotre, Jhumra, Pachmo, Baghariya which are flowing across the project area from 1st to 25th year as per the progressive mine plan
- It was also found that the CRPF camp is located at 0.5 km from the project.
- Hazaribagh is presently under severely polluted area so a cumulative impact considering the other factor like other mines, industries, power plants, National highways has not been considered in collecting baseline data.
- Schedule-I species viz. Python, Monitor Lizard and Peafowl are reported in the core zone and buffer zone. The conservation plan for Schedule-I Species has been prepared by PP but neither its receiving nor the approval from the competent authority is submitted.
- Environmental Baseline data was generated in the **Non-monsoon season 2020 (Jan to Apr 2020)**. Monitoring Parameters:
 - Air Monitoring: The number of sampling locations are 07. The result indicates that the maximum values of PM₁₀ are in the range of 91.2 µg/m³ to 60 µg/m³, whereas the PM_{2.5} are in the range of 49.8 µg/m³ to 20 µg/m³. The SO₂ concentrations within the study area are in the range of 16.3 µg/m³ to 8.18 µg/m³ and the NO_x are in the range of 30.3 µg/m³ to 12.3 µg/m³. The incremental increase in the values were projected to be 16.74 µg/m³ for PM₁₀, 5.38 µg/m³ for PM_{2.5}, 9.17 µg/m³ for SO₂, and 39.31 µg/m³ for NO_x. The value of total GLC is 137.34 µg/m³ for PM₁₀, 55.18 µg/m³ for PM_{2.5}, 24.57 µg/m³ for SO₂, and 69.61 µg/m³ for NO_x.
 - The observed pollutant levels were compared with CPCB National Ambient Air Quality Standards & Standards for Coal Mines issued by MoEF&CC, GSR-742 E dt. 25.09.2000 and found to be under standards.
 - Surface water Monitoring: The number of sampling locations were 3 i.e Chutua nala Upstream & Downstream and Kotre Nalla. Sampling stations are not adequate as the Jhumra, Pachmo, Baghariya and Ajay river is not taken into consideration

28.1.4 The EAC, after deliberations observed that it is a green field project located in lush green forest area which is rich in biodiversity and crossing with major tributaries of Bokaro River i.e Chatuwa or Jhumra river. While noting that in total mine lease area of 1162.87 Ha, about 1006.17 Ha forest land is involved for diversion of forest land, the EAC enquired about whether the alternate options are chosen by PP before opting for opencast mining method and preferring the river (2 nos.) diversions. PP could not replied properly and also it was found that no environmental cost-benefit analysis was conducted by consultant though 86.5 % of the mine lease is forest area i.e 1006.17 Ha. It was also seen that the forest area mentioned in Pre -mining land use is 762 Ha, the discrepancy in data needs to be reconciled. EAC also pointed out on the mine plan proposed with rivers diversion proposed namely Kotre, Pachmo, Jhumra and Baghariya and asked the planner to revise it by incorporating sustainable methods of mining instead mining from the south eastern boundary. EAC noted that

Jhumra river is a major tributary and it should be protected. EAC further enquired about OB dumping proposed in forest area and not taking into consideration the integrated approach and using the void of Kedla OCP or any other nearest mine. It was desired that non-coal bearing forest areas should be avoiding for its use of OB dump.

EAC found that the socio economic study was also not conducted properly without any need base survey linking to CSR activity. Also no project specific EMP cell is devised for project as no mention given in EIA/ EMP report. The project falls under Severely Polluted Area so cumulative impact assessment study to be conducted by PP considering the impact of nearby mines, washery, power plants and industries etc.

Finally EAC concluded that mine plan has been prepared without due consideration of environment and forest protection. EAC expressed its concern as mine is located in severely polluted area and mandatorily recommended PP to gather information of State's Action Plan and integration of EMP with that plan. The EAC also asked PP to revise the EMP budget and provide the break- up of CSR activity too, along with time bound action plan to address public hearing issues with proper budgetary provision. EAC also noted lack of commitment of PP in supplying drinking water to nearby villages, as one issue raised in public consultation. EAC advised PP to at least take the charge of service and maintenance of the RO plant already installed with dedicated pipe line to user of respective villages.

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

- (i) PP shall update and revise mine plan & mine closure activity considering the sustainable way of mining and by restricting the diversions of streams. .*
- (ii) PP shall submit Environment cost benefit analysis of this project (third party) based on loss of forest, biodiversity, diversion of river and accordingly review method of mining.*
- (iii) Emphasis to be given on protection measures for the 4 streams namely Kotre, Jhumra, Pachmo and Baghariya flowing across the lease area.*
- (iv) As suggested by EAC, PP and consultant must adopt an integrated approach while handling the Over burden as the void of already existing nearby OCP, which can also be taken into consideration. PP must explore with scientific justification for OB handling as integrated approach with nearby Kedla OCP.*
- (v) PP shall provide the acknowledgement of Wildlife Conservation Plan and allocated fund for Schedule-I species and breakup of the proposed activities with budgetary provision submitted to the DFO.*
- (vi) PP shall submit Social Impact Assessment Study and draft R&R plan (to be submitted to District Commissioner)*
- (vii) PP shall redo the monitoring of ambient air for carrying capacity in order to conduct the cumulative impact and propose the EMP measure in commensurate with State Action Plan for Severely Polluted area.*
- (viii) PP shall recheck and re-monitor the water quality of surface water in vicinity of the project area*

- (ix) *Time bound action plan with budgetary provision for commitment made on the issues raised during public hearing in both the districts.*
- (x) *PP to submit the revised EMP cost and the break -up of activity proposed in CSR*
- (xi) *The state action plan for mining should be taken into consideration while proposing EMP as the mine is located in severely polluted area*
- (xii) *The socio –economic study to be conducted with actual survey report and a comparative assessment to be made from the census data of 2011-part B and also economic status of the study area and it should reflect how economically project will contribute to public. The study should also include the status of infrastructural facilities and amenities present in the study area and comparative assessment with census data of 2011 part A of EIA report and link it with the initialization and quantification of need based survey for CSR activities to be followed*
- (xiii) *A detailed of capital and recurring cost of the project with revision in EMP cost to be provided with proper budget management.*
- (xiv) *A time bound action plan with its budgetary provision for green belt development with three tier plantation suggesting the name of species its survival rate, must be provided by PP*
- (xv) *List of species of flora and fauna shall be vetted by DFO after conducting primary survey of buffer zone*
- (xvi) *A justification on carrying the open cast mining wrt carbon foot print and carbon sink of the existing forest area for next 10 years must be provided by PP with its compensatory provision*
- (xvii) *Form 2 shall be revised in respect of Land use (Forest Area) and PP must furnish the stage –I FC of 1006.17 ha forest land*
- (xviii) *PP shall submit action plan for addressing issues raised during Public hearing with timeline and allocated fund in tabular form.*
- (xix) ***Revised EIA/ EMP report, Form- 2 & mining plan must be provided by PP as suggested by the EAC***

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

Agenda No. 28.2

Gourangdih ABC Opencast Coal Mining Project of 2.5 MTPA in an ML area of 356.575 ha by M/s West Bengal Mineral Development and Trading Corporation Limited (WBMDCL) located at Villages Panuria, Kantapahari, Jamgram, Shibdhawra, Banddhawra, Lalbandh, Gourangdih & Bhuiapara, Tehsil Barabani CD Block District Paschim Bardhaman (West Bengal) – For Reconsideration in Environmental Clearance -reg.

[Proposal No. IA/WB/CMIN/65801/2017; F.No. J-11015/80/2017-IAII (M)]

28.2.1 The proposal is for Environment Clearance to Gourangdih ABC Opencast Coal Mining Project of 2.5 MTPA in an ML area of 356.575 Ha by M/s West Bengal Mineral Development and Trading Corporation Limited (WBMDCL) located at Villages Panuria, Kantapahari, Jamgram, Shibdhawra, Banddhawra, Lalbandh, Gourangdih & Bhuiapara, Tehsil Barabani CD Block District Paschim Bardhaman (West Bengal) – For Reconsideration in Environmental Clearance -reg.

Bardhaman (West Bengal).

28.2.2 The revision of Details of the proposal, as ascertained from the proposal documents are given as under

- Total mining lease area shall become 356.575 ha and the project area will same as ML area i.e 356.575 ha. Revised Mining Plan (first revision) (including Progressive Mine Closure Plan) has been approved by the Ministry of Coal, Government of India vide letter No. 13016/77/2006-CA-I (Part) dt. 28-06-2011.

The land usage pattern of the project is as follows:

Pre-mining land use details (Area in Ha)

Sl.	Land pattern	Total Area	Within ML area	Outside ML area
1	Agricultural Land	48.43	48.43	Nil
2	Forest land (protected & jungle)	109.459	109.459	Nil
3	Water body	15.44	15.44	Nil
4	Settlements (Built up area)	60.86	60.86	Nil
5	Fallow land (Danga)	44.07	44.07	Nil
6	Degraded land (Old quarry area)	61.316	61.316	Nil
7	Non -agricultural land for colony	5.00	5.00	Nil
8	Non -agricultural land for Rehabilitation	12.00	12.00	Nil
	Total	356.575	356.575	Nil

Post-mining land use details (Area in Ha)

Sl. No.	Land use type	Post-Mining Land use (ha)	Agricultural Land	Plantation	Water Body	Public/ Company Use	Forest Land (Returned)	Undisturbed	Total
1.	Excavation area	242.82 [#]							
2.	Backfilled Area	201.89	76.84	51.3			73.75		201.89
3.	Excavated Void	40.93			35.84		5.09		40.93
4.	Top soil Dump	4.07		4.07					4.07
5.	Safety Zone/ Green Belt	10.03		8.90			1.13		10.03
6.	Settling Pond	0.19			0.19				0.19

7.	Road & Infrastructure area.	9.21		7.93		1.28			9.21
8.	Garland Drains.	0.76			0.76				0.76
9.	Undisturbed Area	42.43					4.45	37.98	42.43
10.	Dismantled Surface Dump	47.06						47.06	47.06
	Total	356.57	76.94	72.20	36.79	1.28	84.42	85.04	356.57

Note: #29.65 ha of old quarry area (existing) in quarry A has been considered as excavation area in the revised mining plan i.e. minor changes made in approved mining Plan.

source: WBMDTCL based on report on minor changes in approved mine plan, December 2021

- Total quarry area is 242.82 ha out of which backfilling will be done in 201.89 ha (by end of life of mine) while final mine void will be created in an area of 40.93 ha (by end of life of mine) with a depth of 120 m in Block-A and 120 m in Block-C. Backfilled quarry area of 125.05 ha shall be reclaimed with plantation, while 76.84 ha land shall be converted into Agricultural Land. Part of the void area 5.09 ha will be reclaimed & plantation will be done, whereas, 35.84 ha void will be converted into water body.
- Reclamation Plan in an area of 146.59 ha, comprising of 125.05 ha of internal dump, 5.09 ha of void, 7.93 ha of road & infrastructure area, 4.07 ha of Top soil dump and 4.45 ha of undisturbed area. In addition to this, an area of 10.03 ha, included in the safety zone, has also been proposed for green belt development.

28.2.3 The EAC during deliberations noted the following:

- The proposal was deferred in 2nd EAC held during 28-29 September 2020 and it was deferred for want several information. Proposal was reconsidered by EAC in its meeting held on 13th January, 2021. EAC again deferred the proposal as PP did not submit to the required information.
- 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
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1	PP shall review the Mine Plan and Mine Closure Plan to optimize external and Internal dumping schedule, and avoid its proximity to any habitation (2nd external OB dump). The PP shall ensure faster reclamation of land disturbed by both mining and dumping on a concurrent basis as soon as the external and internal dumping operation of an area gets over. It was observed, even in the existing mine plan that reclamation of land can start much quicker than what has been envisaged to begin only at the end of the mine life. Reclamation must include regradation of land on a concurrent basis before plantation or any other land use such as rain harvesting etc	The Mine Plan and Mine Closure Plan has been reviewed to optimize external and Internal dumping schedule. The optimization measures has resulted in: (1) The revised quantity of rehandled Overburden comes to about 10.14 Mcum with a substantial reduction of more than 54% on the total quantum. (2) Replacement of external OB dump (A2) in Gourangdih A with temporary top soil dump, CHP & Workshop to reduce its impact on the habitation of Gourandih & Panuria. (3) The height of external OB dump located in Northern part of Quarry-C has been reduced from about 45 m to 5 m and of OB dump located in Northeast of Quarry-C from about 80 m to 30 m (4) The rehandling of external dump and its backfilling that had been planned at the closure period (27th-30th year) in previous mine plan, has now been planned for rehandling and backfilling between 8th to 12th years of operation, concurrent to operation. Thus, it will make faster reclamation possible for both the external dump area after rehandling and the backfilled area. Backfilling shall be carried out till 141-172.46 mRL over an area of 201.89 ha, which will match the ground/ surface level. Backfilled area will be graded and out of 201.89 ha, plantation shall be undertaken over 125.05 ha including 73.75 ha land to be returned as forest land. Rate of plantation proposed as 2500 tree/ ha.																																															
2	PP shall bring clarity on the area of coal block since it is 370 ha as per Mine Plan and as per PP, area of project is 356.57 ha. Also, forest land is 92.53 ha in approved Mine Plan however PP has applied for 109.459 ha.	<table><tr><th colspan="6">Details of Block Area & ML (Project) area in Hectare</th></tr><tr><th>Sub blocks</th><th>Allotted Block Area</th><th>Area not considere d in the Mining Plan due to Built up</th><th>Area considere d in the Mining Plan</th><th>Area outside block boundary for infrastru ctur e & Other</th><th>ML (Projec t) area</th></tr><tr><td>Area in Block-A</td><td>127.53</td><td>—</td><td>127.53</td><td>37.45</td><td></td></tr><tr><td>Area in Block-B</td><td>90.83</td><td>90.83</td><td>—</td><td>—</td><td></td></tr><tr><td>Area in Block-C</td><td>151.64</td><td>—</td><td>151.64</td><td>39.95</td><td></td></tr><tr><td>Area taken out side of block</td><td></td><td>—</td><td>—</td><td></td><td></td></tr><tr><td>Total</td><td>370</td><td>90.83</td><td>279.17</td><td>77.40</td><td>356.57</td></tr></table> <p>Total applied ML area is 356.57 ha. After the allotment of the Block to WBMDTCL, reconciliation of the land schedule was undertaken. The change in forest area from 92.53 ha to 109.459 ha is one of the result of reconciliation. Thus, WBMDTCL is</p>						Details of Block Area & ML (Project) area in Hectare						Sub blocks	Allotted Block Area	Area not considere d in the Mining Plan due to Built up	Area considere d in the Mining Plan	Area outside block boundary for infrastru ctur e & Other	ML (Projec t) area	Area in Block-A	127.53	—	127.53	37.45		Area in Block-B	90.83	90.83	—	—		Area in Block-C	151.64	—	151.64	39.95		Area taken out side of block		—	—			Total	370	90.83	279.17	77.40	356.57
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Total	370	90.83	279.17	77.40	356.57																																												

		proceeding with the updated land use details and accordingly forest clearance application has been submitted for 109.459.																																																												
3	PP should submit budget provision/estimate for developing rain water harvesting structures in (i) mine area, (ii) buildings within the mine lease, (iii) Public buildings in Gourangdih B & nearby villages (buffer zone).	<div>The estimate for construction of rain water harvesting structures with pipeline/ collection drain in (i) mine area, (ii) buildings within the mine lease, (iii) Public buildings in Gourangdih B & nearby villages (buffer zone) for the structures presented vide our letter dated 22.12.2020, is given below</div> <table><tr><th>Sl. No.</th><th>Location</th><th>Size of RWH structure, mXmXm</th><th>Cost, Rs. lakhs</th></tr><tr><td></td><td>Within Mine</td><td></td><td></td></tr><tr><td>1</td><td>Excavation workshop</td><td>7.5X6X2</td><td>4.1</td></tr><tr><td>2</td><td>E&M Workshop cum project store</td><td>7.5X6X2</td><td>4.1</td></tr><tr><td>3</td><td>Mine offices & common facilities</td><td>7.5X6X2</td><td>4.1</td></tr><tr><td></td><td>Outside Mine</td><td></td><td></td></tr><tr><td>1</td><td>Gourangdih Public School</td><td>2X1.6X1</td><td>0.22</td></tr><tr><td>2</td><td>Gourangdih RKS Institution (HS)-Roof Top & Ground</td><td>4.25X2X1.5</td><td>2.79</td></tr><tr><td>3</td><td>Panuria football ground</td><td>4X3X2</td><td>5.41</td></tr><tr><td>4</td><td>Panuria Panchayat Office-Roof Top</td><td>1.4X1X1</td><td>0.09</td></tr><tr><td>5</td><td>Paschim Bengal Gramin Bank-Roof Top</td><td>1X0.7X1</td><td>0.04</td></tr><tr><td>6</td><td>Jamgram Public School-Roof Top & ground</td><td>1.5X1.5X1</td><td>0.93</td></tr><tr><td>7</td><td>JPUS football ground</td><td>5.25X4X1</td><td>5.26</td></tr><tr><td>8</td><td>Baradanga Primary School-Roof Top & ground</td><td>1.7X1X1</td><td>1.12</td></tr><tr><td></td><td>TOTAL</td><td></td><td>40.46</td></tr></table>	Sl. No.	Location	Size of RWH structure, mXmXm	Cost, Rs. lakhs		Within Mine			1	Excavation workshop	7.5X6X2	4.1	2	E&M Workshop cum project store	7.5X6X2	4.1	3	Mine offices & common facilities	7.5X6X2	4.1		Outside Mine			1	Gourangdih Public School	2X1.6X1	0.22	2	Gourangdih RKS Institution (HS)-Roof Top & Ground	4.25X2X1.5	2.79	3	Panuria football ground	4X3X2	5.41	4	Panuria Panchayat Office-Roof Top	1.4X1X1	0.09	5	Paschim Bengal Gramin Bank-Roof Top	1X0.7X1	0.04	6	Jamgram Public School-Roof Top & ground	1.5X1.5X1	0.93	7	JPUS football ground	5.25X4X1	5.26	8	Baradanga Primary School-Roof Top & ground	1.7X1X1	1.12		TOTAL		40.46
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4	PP should develop/adopt pond, lake & reservoir and submit the details of distribution of potable water supply in the villages and for agricultural purpose falling within the zone of influence and plan of distribution of water to	<div>PP shall adopt the following ponds: I. In western side of village, along Gourangdih- Rupnarayanpur road II. North eastern side of the village, along Gourangdih-Aliganj road The activities that shall be carried out as part of adoption activities shall be: 1. Filling the pond in dry season 2. Construction of separate bathing ghats for men and women, expense of</div>																																																												

	the local people to the tune 560 KLD through PHED, Govt. of WB	<p>which shall be met through the CSR budget of the company</p> <p>3. Desilting on need basis</p> <p>4. Plantation of fruit bearing trees, around 80 nos. along the periphery of the pond.</p> <p>Pipelines will be laid to the existing surface water ponds in the nearby villages water supply volume at peak mine water discharge is given below:</p> <table><tr><th>Sl. No.</th><th>Location of Ponds</th><th>Water supply (KL)</th><th>Sl. No.</th><th>Location of Ponds</th><th>Water supply (KL)</th></tr><tr><td>P1</td><td>Daskiari</td><td>176</td><td>P10</td><td>Gourangdih</td><td>144</td></tr><tr><td>P2</td><td>Aliganja</td><td>258</td><td>P11</td><td>Gourangdih</td><td>364</td></tr><tr><td>P3</td><td>Kashidangal</td><td>141</td><td>P12</td><td>Baradang</td><td>28</td></tr><tr><td>P4</td><td>Panuria</td><td>60</td><td>P13</td><td>Chotkara</td><td>161</td></tr><tr><td>P5</td><td>Panuria</td><td>28</td><td>P14</td><td>Kanta Pahari</td><td>48</td></tr><tr><td>P6</td><td>Panuria</td><td>69</td><td>P15</td><td>Kanta Pahari</td><td>13</td></tr><tr><td>P7</td><td>Panuria</td><td>303</td><td>P16</td><td>Kanta Pahari</td><td>105</td></tr><tr><td>P8</td><td>Panuria</td><td>75</td><td>P17</td><td>Kanta Pahari</td><td>145</td></tr><tr><td>P9</td><td>Panuria</td><td>333</td><td>P18</td><td>Alipur</td><td>120</td></tr></table> <p>➤ The estimated cost anticipated as Rs. 89.12 Lakhs based on rates in “Schedule and guidelines for preparation of piped water supply schemes” of PHED, GoWB. This shall be carried out over a period of 4-5 years in phase wise manner.</p>	Sl. No.	Location of Ponds	Water supply (KL)	Sl. No.	Location of Ponds	Water supply (KL)	P1	Daskiari	176	P10	Gourangdih	144	P2	Aliganja	258	P11	Gourangdih	364	P3	Kashidangal	141	P12	Baradang	28	P4	Panuria	60	P13	Chotkara	161	P5	Panuria	28	P14	Kanta Pahari	48	P6	Panuria	69	P15	Kanta Pahari	13	P7	Panuria	303	P16	Kanta Pahari	105	P8	Panuria	75	P17	Kanta Pahari	145	P9	Panuria	333	P18	Alipur	120
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5	PP should provide consequential impact of OB dump by reducing the fleet size after change in rearranging the areas and schedule.	<p>Consequential impact of OB dump anticipated are as follows:</p> <p>1. The area to be degraded by external dumping will reduce by at least 33% as area under OB & Top Soil dump reduced from 76.7 ha to 51.13 ha.</p> <p>2. The revised quantity of rehandled Overburden comes to about 10.14 Mcum with a substantial reduction of more than 54% on the total quantum.</p> <p>3. The number of operational dumpers will reduce by 13 nos. (23.21%).</p> <p>4. There will be overall reduction in emission due to optimization of fleet in consequence to reduction in external dumping.</p>																																																												
6	Mechanism or Action proposed for controlling any cracks in building located in B Block since PP has accepted that there are chances of crack in building due to blasting in Public Hearing.	<p>Preventive action:</p> <ul style="list-style-type: none">Controlled blasting techniques including muffled blasting (near habitation) will be adopted.In view of the densely populated habitation of Panuria and Gourangdih B, Ripper Dozer will be used wherever necessary in combination with loader and dumpers for excavation of OB and it’s transportation to the dump.CMPDIL/CIMFR would be engaged for conducting thorough scientific study and prescribe the optimum blasting design for the																																																												

		<p>mine. The recommendations of the report shall be strictly followed during blasting.</p> <ul style="list-style-type: none">• Each round of blasting would be conducted under the supervision of an Assistant Manager as per statute and monitored by senior technical officers.• Precise and accurate timing delay, optimum blast design, etc. will be maintained to reduced the Fly rock and dust emission.• Blasting will be done as per the provisions of the CMR, 2017 for protection of the dwellings, surface structures, road etc• Other safety provisions mining operation shall be carried out/ implemented as per CMR 2017 and as per safety regulations mandated by Director General of Mines Safety (DGMS).• A maximum peak particle velocity of 0.3 mm/sec, mining operation is planned in the approved mining plan upto a distance of 100 m from the village boundary with a maximum charge per round 2 te, maximum charge per delay 200 kg and maximum depth of hole 12 m.• Corrective action :• A Grievance Redressal Committee will be formed under the chairmanship of the Block Development Officer, Barabani. Aggrieved persons, if any, can easily approach the GRC for redressal and admissible compensation.																																
7	Since, two mine quarries are at certain distance, PP shall clarify the technique adopted/method adopted for Air Quality Impact modeling.	<ul style="list-style-type: none">• There are two proposed quarries i.e. Block-A and Block-C and both the quarries have individual production schedule.• Since, both the block are separated by a habitation i.e. Block-B (not to be mined), modeling has been done considering both the blocks as separate entities and cumulative incremental GLCs of air pollutant have been calculated.• In view of the revised dumping schedule and rehandling (in response to ADS point no. i), the peak material handling is now occurring in the 9th year, for which the modelling has been carried out afresh.• Air quality prediction modelling has been carried out using ISCST3 model considering (i) excavation activities, material handling & Machinery operation in pit, (ii) OB handling & dumper movement on dumps and (iii) the area of CHP as source of fugitive emissions.• Both the mines quarries as well as the dumps have been divided into source grid <table><tr><th rowspan="2">Parameter</th><th colspan="2">Receptor Co-ordinates (UTM)</th><th rowspan="2">Receptor no.</th><th rowspan="2">Distance & project boundary</th><th rowspan="2">Incremental GLC, $\mu\text{g}/\text{m}^3$</th></tr><tr><th>Easting</th><th>Northing</th></tr><tr><td>PM₁₀</td><td>499117</td><td>2634344</td><td>278</td><td>100 m</td><td>6.269</td></tr><tr><td>PM_{2.5}</td><td>499117</td><td>2634344</td><td>278</td><td>100 m</td><td>3.603</td></tr><tr><td>SO₂</td><td>499117</td><td>2634344</td><td>278</td><td>100 m</td><td>0.343</td></tr><tr><td>NO₂</td><td>499117</td><td>2634344</td><td>278</td><td>100 m</td><td>20.640</td></tr></table>	Parameter	Receptor Co-ordinates (UTM)		Receptor no.	Distance & project boundary	Incremental GLC, $\mu\text{g}/\text{m}^3$	Easting	Northing	PM ₁₀	499117	2634344	278	100 m	6.269	PM _{2.5}	499117	2634344	278	100 m	3.603	SO ₂	499117	2634344	278	100 m	0.343	NO ₂	499117	2634344	278	100 m	20.640
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8	PP should submit year wise breakup and timeline with specific activity based Action Plan regarding the queries raised during the public hearing.	Year wise breakup and timeline with specific activity based Action Plan regarding the points raised (sl. 1 to 5) during the public hearing are								
		S. N.	Activity requirement raised during public hearing	Action Plan	Year 1	Year 2	Year 3	Year 4	Year 5	Total
		1	Generation of employment for local youth	1. Sponsoring of local youth for training at ITI Purulia. Govt. It has 14 trades 2. Grant of bicycle for travel to ITI from residence	50 youth sponsored for training at ITI Purulia	50 youth sponsored for training at ITI Purulia	50 youth sponsored for training at ITI Purulia	50 youth sponsored for training at ITI Purulia	50 youth sponsored for training at ITI Purulia	
				Budget (Rs. Lakhs)	300,000	300,000	300,000	300,000	300,000	1,500,000
		2	Management of impact due to water table decline	Laying of pipelines for supplying water to ponds for recharge of surface water ponds for villagers use and irrigation use	Laying of pipelines (2.14 km) for supplying water to ponds for recharge on alternate days in	Laying of pipelines (5.47 km) for supplying water to ponds for recharge on alternate days in	Laying of pipelines (2.036 km) for supplying water to ponds for recharge on alternate days in Gaouran gdi.	Laying of pipelines (3.1 km) for supplying water to ponds for recharge	-	

					Gaou rangd ih, Panur ia & Kashi danga l	in Daski ari, Aliga nj & Chot kara.		arge on alter nate day s in Bar ada ng & Kan ta Pah ari		
				Budget (Rs. Lakhs)	14,94 ,132	38,15 ,160	14,19,5 30	21,8 3,67 7	-	89,12 ,499
	3	Improv ement of road conditi ons	1. Construct ion of new roads as specified 2. Maintena nce of construct ed roads	Constru ction of a new road from tribal basti at Kashida nga to Jamgra m (1 km) and Aliganja village to Panuriy a (1.5 km)	1. Villa ge Kanta pahar i (1.04 km), road const ructio n 2. Maint enanc e of roads const ructe d till previ ous year (5% of cost)	1. Villa ge Chot kara (0.68 km), road const ructio n 2. Maint enanc e of roads const ructe d till previ ous year (5% of cost)	1. Village Baradan g (0.46 km), road construc tion 2. Mainte nance of roads construc ted till previous year (5% of cost)	1. Village Jamgram (0.94km), road constructi on 2. Maintena nce of roads construct ed till previous year (5% of cost)	V	
			Budget	3,500,00	1,631	1,208	960,978	1,681,026	8,981,	

			(Rs. Lakhs)	0	,000	,550			554
	4	Protective measures for management of impact due to blasting	1. Conduct of vibration study every year 2. Purchase of PPV meters (3 nos.)	1. Conduct of vibration study 2. Purchase of PPV meters (3 nos.)	Conduct of annual vibration study	Conduct of annual vibration study	Conduct of annual vibration study	Conduct of annual vibration study	
			Budget (Rs. Lakhs)	400,000.00	100,000.00	100,000.00	100,000.00	100,000.00	800,000
	5	Probable mitigative measures for overall impact	1. Measures for Air & Water pollution control, Occupational Health, Green Belt development Reclamation etc	22,16,15,800	5,64,74,050	5,41,21,050	5,41,21,050	5,41,21,050	44,04,53,000
		GRAND TOTAL	(Rs. Lakhs)	22,73,09,932	6,23,20,210	5,71,49,130	5,76,65,705	5,62,02,076	46,06,47,053
A total of 46,06,47,053 has been proposed by PP to invest in public hearing									

9	PP should submit the details the breakup of R&R budget and should submit the details of families having land only and families having land and house within the ML.	<div>Details of families having land only and families having land and house</div> <table><tr><th colspan="2">PAF Category</th><th colspan="2">Numbers*</th></tr><tr><td colspan="2">PAFs having land only</td><td colspan="2">1680</td></tr><tr><td colspan="2">PAFs having land and house</td><td colspan="2">629</td></tr><tr><td colspan="4">*As per SIA study</td></tr><tr><td colspan="4"><ul style="list-style-type: none">Based on the R&R policy of WBMDTCL, the following R&R cost may be incurred.The costs are tentative in nature and subject to change based on actual R&R activities undertaken at the time of rehabilitation and resettlement of the PAFs.</td></tr><tr><th>Sl. No.</th><th>R&R benefits</th><th>Option 1: PAFs do not opt for employment</th><th>Option 2: PAFs opt for employment</th></tr><tr><td>1</td><td>Monetary Compensation</td><td>99.97</td><td>79.17</td></tr><tr><td>2</td><td>Employment (Wages/ Training)</td><td>-</td><td>6.66</td></tr><tr><td>3</td><td>Community development</td><td>5.98</td><td>5.98</td></tr><tr><td colspan="2">Total R&R Cost (INR Crores) (1+2+3)</td><td>105.95</td><td>91.81</td></tr><tr><td colspan="2">Total R&R Cost (INR Crores) (1+3)</td><td>105.95</td><td>85.15</td></tr></table>				PAF Category		Numbers*		PAFs having land only		1680		PAFs having land and house		629		*As per SIA study				<ul style="list-style-type: none">Based on the R&R policy of WBMDTCL, the following R&R cost may be incurred.The costs are tentative in nature and subject to change based on actual R&R activities undertaken at the time of rehabilitation and resettlement of the PAFs.				Sl. No.	R&R benefits	Option 1: PAFs do not opt for employment	Option 2: PAFs opt for employment	1	Monetary Compensation	99.97	79.17	2	Employment (Wages/ Training)	-	6.66	3	Community development	5.98	5.98	Total R&R Cost (INR Crores) (1+2+3)		105.95	91.81	Total R&R Cost (INR Crores) (1+3)		105.95	85.15
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10	PP shall submit the detailed plan of action for numbers and location of air pollution monitoring stations, noise monitoring and vibration monitoring (based on blast vibration study) all along the A & C quarries towards B block for regular monitoring during mining operations	PP had furnished the Map showing location of monitoring location for various monitoring parameters like Air quality, meterology, water quality effluents, Ambient Noise level, Inventory flora, Land reclamation, Soil quality, Peak particle velocity and noise during blasting																																															
11	PP should present the scheme of plantation along the haul roads and toward block B to reduce air pollution with emphasis on local and native species and the species which are tolerant to pollution	<ul style="list-style-type: none">It is proposed to establish green belt all along the boundary of the project.Along the block B, in order to minimise the impact on the population, a green belt of width 45 m shall be established in the first year itself.The permanent haul road connecting the CHP in Block C to block A mine pit shall also be planted with green belt of 8 m on either side.In second year, the balance periphery of the project boundary shall be planted with a 7.5 m wide greenbelt.The list of recommended plant species for the green belt which is prepared with reference from Guidelines for Developing Green Belts by CPCB																																															

12	PP should submit certification of PCCF about absence of Schedule-I species in the project and buffer area. Further certifying that no wildlife/National Sanctuary in 10 km project area	<ul style="list-style-type: none"> PP provided the certificate of PCCF on 27.08.2021 certifying that there is no direct evidence of Schedule-I species and there is no Wildlife Sanctuary/ National Park within 10 km of the project site.
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28.2.4 The EAC, after deliberations observed that instant proposal is for reconsideration in Environmental Clearance and observed the earlier compliance of points raised by EAC of revising the mine plan were taken up by PP but only on re-handling of dump and its related area located within the project area is addressed. PP has now been planned for rehandling and backfilling between 8th to 12th years of operation, concurrent to operation. There are three projected areas in the northern boundary of the Quarry A B and C. As per the revised plan PP will not dump the OB in projected area of quarry A and EAC had also mandatorily suggested PP, to leave both the projected area located in quarry A as well as C since they are located near to the densely populated habitation and increase the height of OB dump, to only use projected area of C. The area proposed in C block is to be reclaimed and plantation to be done. The PP had yet to procure the area located outside the lease i.e. around 143.305 Ha. So EAC asked the PP to expedite it and submit the LOI of the state government. EAC also recommended mandatorily PP to obtain Forest Clearance of 109.459 Ha of the total forest area falling in the project boundary.

EAC asked PP to store the water as the ground water is shallow instead of going for very small size RWH system. On enquiring about the mining method PP replied that it will be done by Shovel dumper with hydraulic excavators on which EAC recommended mandatorily to opt surface miner for excavation of coal as the densely populated area is located nearby and within the mine lease too. Further on enquiry, PP could not finalized the transportation route rather proposed 4 tentative routes so EAC had asked to firm up the evacuation plan with maximum two options so the environment impact due to transportation could be minimized with optimum fleet size to nearest railway siding. PP was given opportunity during preparation of minutes; however the same was not provided. It was also found that schedule –I species like Rock pythan, peacock etc. are present but PP had not prepared the conservation plan for them, So EAC asked PP to prepare the conservation plan and submit it for approval to the competent Authority.

Further, based on documents and facts submitted by PP, EAC further desired from PP to submit the following details

- (i) PP shall furnish the copy of Letter of Intent of State Government of the area other than the mine lease or allocated coal block to be acquired by PP*
- (ii) PP shall provide the acknowledgment and approval of Wildlife Conservation Plan for Schedule-I species and breakup of the proposed activities with budgetary provision submitted to the DFO*

- (iii) PP shall provide the concurrence letter from Coal Controller Organization regarding revised Mine Plan and Mine closure plan as per observations of EAC during earlier and current meeting
- (iv) PP shall firm up maximum 2 route nearest to railway siding for linkage and based on traffic impact assessment, EMP measures shall be proposed after deciding and fixing the route of transportation from mine to railway siding.
- (v) PP shall provide the detailed plan of plantation on the area desired by EAC and peripheral plantation of 50 mts along the mine (quarry A and C).

In view of above, the proposal is **deferred**.

Agenda No. 28.3

Kanau -Matasukh Lignite Mining project of 1 MTPA capacity in Mine lease area 1063.35 ha by M/s Rajasthan State Mines and Minerals Limited located at villages Kasnau, Iglar, Matasukh, Arwar, tehsil Jayal, District Nagaur (Rajasthan) – For Revalidation of Environmental Clearance - reg

[Online proposal No. IA/RJ/CMIN/240621/2018; F No. J-11015/21/99-IA.II(M)]

28.3.1 The proposal is for Revalidation of Environmental Clearance to Kasnau -Matasukh Lignite Mining project of 1 MTPA capacity in Mine lease area 1063.35 ha by M/s Rajasthan State Mines and Minerals Limited located at villages Kasnau, Iglar, Matasukh, Arwar, tehsil Jayal, District Nagaur (Rajasthan) under Ministry's notification dated 6th April, 2018.

28.3.2 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-11015/21/199-IA.II (M) dated July 19, 2000
- PP is requesting for revalidation of Environmental clearance
- The project was deliberated on 24th EAC meeting held during 30th December, 2021 for revalidation of Environmental Clearance 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
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1	Certified Compliance status of the existing EC conditions from the concerned regional office of the Ministry	Certified Compliance Report dated 03-03-2022, issued by the Integrated Regional Office of MOEF&CC has been submitted.
2	Need based survey its outcome with budgetary provisions in tabular form for proposed activities	<p>Since inception RSMML has been continuously taking up CSR projects/activities as per requirement in consultation with the District Administration and public representatives.</p> <p>RSMML as an organization always takes care of the social needs of all areas in vicinity of its mines.</p> <p>A formal need based survey has not been conducted by the PP.</p> <p>PP is proactively involved for overall benefits of the entire surrounding locality/ population.</p> <p>Till date, PP has already incurred and expenditure to the tune of Rs.779.06 lacs in various such works.</p>
3.	Details of Capital and Recurring cost of the project, as EMP to be provided	The details of Capital & Recurring Expenditure incurred by RSMML of the EMP of Kasnau-Matasukh Lignite Mines since the Year 2003-04 to till date is provided by PP
4.	A time bound action plan with its separate budgetary provision for addressing the public hearing issues	<p>None of the issues raised in the PH require any specific budget allocation.</p> <p>However, RSMML would always continue to take up more & more projects/ activities under its CSR program for the benefits of the local population.</p>
5.	PP shall submit justification on production without CTO and action taken by State Pollution Control Board due to this.	<ul style="list-style-type: none"> • The last CTO granted by the State Pollution Control Board was valid till 31-08-2017. • RPP had applied for renewal of CTO on 27-04-2017. (well within the prescribed time limit) • As per the rules of RSPCB, the consent application, if complete in all the respects shall be treated as deemed consent, if not granted or refused within four months after submission of the complete application. • Accordingly, the renewal of the CTO is considered as “deemed consent” in accordance with the rules in vogue. • A copy of the RSPCB office order dated 24-06-2016,clarifying the deemed consent

submitted the estimated allocated budgetary expenditure for EMP to be spent in next 5 years which includes Rs. 5.22 crores for plantation, Rs. 0.28 cr for rooftop rain water harvesting structures in 15 school buildings, Rs. 0.88 cr (proposed rejuvenation of 10 existing natural ponds within the buffer zone), Rs. 1.50 cr (for air, water, noise & soil monitoring), Rs. 8.29 crore (for water sprinkling for dust suppressoin) and Rs. 0.25 cr (occupational health & safety measures)

28.3.3 *The EAC, after deliberations based on submission of PP that the Certified Compliance Report provided by IRO had mentioned almost all the conditions are complied except that of fund to be spent on EMP, green belt development etc is partially complied. Further PP needs to bifurcate the activities pursued for EMP measures and CSR.. EAC also had mandatorily asked PP to conduct the need base survey of the study area and accordingly the CSR activity to be proposed. As PP had proposed RWH system but EAC also suggested them to construct Rain water harvesting Ponds and maintain them for drinking water supply. EAC emphasized to set up EMP cell and advised to recruit the qualified personnel in EMP cell having environment engineering and science as basic qualification.*

The EAC, after deliberations found that production capacity within previous sanctioned capacity of 1 MTPA and is seeking revalidation of EC dated 19th July, 2000. It was also observed that the validity of the CTO obtained by PP was August, 2017 and RPP had applied for renewal of CTO on 27-04-2017 but was not granted any official letter issued by Rajasthan State Pollution Control Board. PP further clarify that they had many times pursued but neither the renewal of CTO was granted nor and object from the RSPCB had being received so production was continued till date. EAC opined that PP must take CTO and any action if needed may be taken by respective SPCB in this regard under the provision of Water and Air Act.

*EAC finally recommended the proposal for revalidation of Environmental Clearance to **Kasnau - Matasukh Lignite Mining project of 1 MTPA capacity in Mine lease area 1063.35 ha by M/s Rajasthan State Mines and Minerals Limited located at villages Kasnau, Iglar, Matasukh, Arwar, tehsil Jayal, District Nagaur (Rajasthan)** as per Ministry's Notification dated 6th April, 2018, under the provisions of EIA Notification, 2006 and its amendments therein. All other conditions stipulated in EC. No. J-11015/21/199-IA.II(M) dated July 19, 2000 shall remain unchanged with following additional specific conditions to be followed:*

- (i) PP to obtain the CTO for 1 MTPA capacity immediately after grant of revalidation of EC. Any violation to provision of Water and Air Act, if exist, SPCB liable to take action accordingly.*
- (ii) PP shall comply with all the EC condition whichever is non- complied or partially complied as per the certified compliance report, like green belt, dedicated environment cell, etc. The same shall be reported to IRO, MoEF&CC within 3 months with action plan in time bound manner.*
- (iii) PP shall focus on tree plantation along the Nagaur Didwana highway as per the Condition no. 10 and 13 of EC. A detailed action plan with budgetary provision should be submitted within 3 months to IRO. Areal images in this regard needs to be submitted in six monthly reports to IRO.*
- (iv) PP to accomplish the recruitment of a full-fledged qualified manpower with Environmental Engineer/Env. Science degree background in Environment Management Cell etc within six*

months and same shall be reported to IRO, MoEF&CC.

- (v) PP to submit the separate EMP budget other CSR activity. Separate budget would also require to address the public hearing concerns. An action plan shall be drawn with local gram panchayat within 3 months from date of issue of letter. A dedicated budget shall be earmarked to meet the public concerns and action be submitted within 6 months to IRO, MoEF&CC.*
- (vi) PP to monitor the water quality of the ground water and surface water body located within the core zone and 5 km radius from the periphery of the mine boundary as per procedure laid down by CPCB.*
- (vii) PP to install 1 more continuous ambient air quality monitoring stations at suitable locations preferably village side with consultation of SPCB. The real time data so generated shall be uploaded on company website and linked it with website of CPCB &SPCB. In addition, data should also be displayed digitally at entry and exit gate of mine lease area for public display.*
- (viii) PP shall develop 2 water harvesting pond near the villages of suitable area as suggested by EAC in consultation with Gram Panchayat within 1 year*
- (ix) PP shall deploy atleast 10 number of fog canons with 40 mts throw for mitigation of fugitive dust during mining operations within six months.*
- (x) PP shall comply to its letter Refer no. RSMML/SBU(L)/VDB/F.5/KM/EC/2018/2022-23/25 dated 4th April, 2022 submitted the estimated allocated budgetary expenditure for EMP to be spent in next 5 years which includes Rs. 5.22 crores for plantation, Rs. 0.28 cr for rooftop rain water harvesting structures in 15 school buildings, Rs. 0.88 cr (proposed rejuvenation of 10 existing natural ponds within the buffer zone), Rs. 1.50 cr (for air, water, noise & soil monitoring), Rs. 8.29 crore (for water sprinkling for dust suppression) and Rs. 0.25 cr (occupational health & safety measures).*
- (xi) 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.*
- (xii) PP to plant additional 100,000 plants with three tier plantation along the haul Roads, if not completed, and identified areas with consent to the gram panchayat within one year and plant for remaining within 1 year for their proper growth.*
- (xiii) PP to install solar lights along the road used for transportation of minerals to avoid the accidents at night and also seek its maintenance. PP is asked to also identify the rural areas for installation of solar light with its maintenance within the study area of 10 km radius buffer zone within one year*
- (xiv) 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.*
- (xv) Persons of nearby villages shall be given training on livelihood and skill development to make*

them employable with its proper records.

- (xvi) The illumination and sound at night at project sites disturb the villages in respect of both human and animal population. Consequent sleeping disorders and stress may affect the health in the villages located close to mining operations. Habitations have a right for darkness and minimal noise levels at night. PPs must ensure that the biological clock of the villages is not disturbed; by orienting the floodlights/ masks away from the villagers and keeping the noise levels well within the prescribed limits for day light/night hours*
- (xvii) PP shall pay to farmers of agricultural land if there is any loss due to pollution found by concerned District Commissioner as per extent rules or norms.*
- (xviii) PP should establish in house (at project site) environment laboratory for measurement of environment parameter with respect to air quality and water (surface and ground. A dedicated team to oversee environment management shall be setup which should comprise of Environment Engineers, Laboratory chemist and staff for monitoring of air, water quality parameters on routine basis. Any non- compliance or infringement should be reported to the concerned authority.*
- (xix) Hon'ble Supreme Court in an Writ Petition(s) Civil No. 114/2014, Common Cause vs Union of India & Ors vide its judgement dated 8th January, 2020 has directed the Union of India to impose a condition in the mining lease and a similar condition in the environmental clearance and the mining plan to the effect that the mining lease holders shall, after ceasing mining operations, undertake re-grassing the mining area and any other area which may have been disturbed due to their mining activities and restore the land to a condition which is fit for growth of fodder, flora, fauna etc. Compliance of this condition after the mining activity is over at the cost of the mining lease holders/Project Proponent". The implementation report of the above said condition shall be sent to the Regional Office of the MoEF&CC.*

Agenda No. 28.4

West Bokaro Coking Coal Washery of 10 MTPA production capacity in an area 61.54 ha of West Bokaro Division, Tata Steel Ltd. Located in village Duni, Sarubera, Atna, Bhadwa & Sondiha, Tehsil Mandu, District Ramgarh (Jharkhand) -For Terms of Reference-reg.

[Online proposal No. IA/JH/CMIN/255746/2022; F No. J-11015/10/2022-IA-II(M)]

28.4.1 The proposal is for Terms of References of West Bokaro Coking Coal Washery of 10 MTPA production capacity in an area 61.54 ha of West Bokaro Division, Tata Steel Ltd. Located in village Duni, Sarubera, Atna, Bhadwa & Sondiha, Tehsil Mandu, District Ramgarh (Jharkhand)

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

- (i) The project area is covered under Survey of India Topo Sheet No F45B9 & F45B10 and is bounded by the geographical coordinates ranging from 23°46'29.85"N to 23°43'39.94"N and
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longitudes 85°33'10.29"E and 85°34'46.41"E.

- (ii) Source of coal will captive coal mine of Tata Steel Ltd and e-auctions from CIL & its subsidiary mines. No definite coal linkages.
- (iii) No joint venture for current proposal.
- (iv) Project does not fall in the Critically Polluted Area (CPA), where the MoEF&CC's vide its OM dated 13th January, 2010 has imposed moratorium on grant of environment clearance. However, as per CEPI-2018 the area is categorized as Severely Polluted Area
- (v) Employment generation,
 - Direct employment of 360 Heads (to be re-deployed from existing projects)
 - Indirect employment 350 Heads (to be re-deployed from existing projects) and
 - Additional employment approx. 350 Heads (Employed through contract during construction phase).
- (vi) The project is reported to be beneficial in terms of Benefits at national level:
 - The washery will produce approx. 4.0 - 5.0 MTPA of steel grade coking coal thus resulting in savings to the national exchequer, Middling production for power sector, Tailings production for brick kilns & power generation, Rejects production for power generation and Energy conservation by use of latest technology.
 - Benefits at local level: The project will create indirect employment opportunities in the area, Enhanced socio-economic benefits to local population due to expenditure on CSR activities and Development of tertiary sector industries in and around the proposed project area.
- (vii) West Bokaro Coking Coal Washery is a new project proposed for Terms of Reference from EAC (Coal Mining Projects), MoEF&CC, New Delhi.
- (viii) Total project area is 61.54 ha.
- (ix) The land usage pattern of the project is as follows: Land Use Details of the project area (as on 01.01.2022) is as mentioned below:

Land type:-

Sl. No.	Description	Total (Ha)*
1.	Forest	46.83
2.	Non – Forest	14.19
3.	Water body	0.52
Total =		61.54

*All the land is outside West Bokaro Colliery leasehold area

Present Land Use:-

Sl. No.	Description	Area (ha)
1.	Ropeway/ conveyor with road and maintenance area with green coverage	33.58
2.	Infrastructure with stockpile	15.61
3.	Railway Siding with maintenance area	11.83
4.	Water body	0.52

Total =	61.54
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Proposed Land Use:

Sl. No.	Description	Area (ha)
1.	Ropeway/ conveyor with road and maintenance area	7.94
2.	Washery with Infrastructure	32.78
3.	Railway Siding with maintenance area	14.30
4.	Water body	0.52
5.	Green Belt	6.00
Total =		61.54

- (x) The project area (major part) was acquired by Tata Steel Ltd. in 1951-52 & is being used for transportation of coal from West Bokaro Coal Mine to the captive Railway Siding at Chainpur. Later, it was notified as forest land in 1980, for which Forest Diversion Proposals have been submitted.
- (xi) Washing Technology - Dense Media Cyclone with floatation process.
- (xii) 46.83 ha of forest land has been reported to be involved in the project. Diversion of forest land is already filed vide the following proposals:
 - FDP Proposal - 36.94 ha land (Proposal No.- FP/JH/IND/142974/2021 dated: 22.10.2021); Status: Under process
 - FDP Proposal - 9.89 ha land (Proposal No.- FP/JH/MIN/814/1998 dated: 10.09.1998); Status: Stage-I approval granted by MoEF&CC vide no. 10-249/FCE dated:03.01.2011. Stage-II approval is in advance stage.
- (xv) The project has one temporary surface OB dumps inside lease in an area of 11.8 ha with 50 m height and 1.78 Mm³ of OB. At the end of OC mining operation after 23 years internal OB in an area of 79.53 ha with 36.09 Mm³ of OB backfilling is envisaged in the project.
- (xiii) No National Parks, Wildlife Sanctuaries and Eco-Sensitive Zones fall within 10 km boundary of the project
- (xiv) The ground water level has been reported to be varying between 4.35 m to 5.94 m during pre-monsoon and between 1 m to 2.86 m during post-monsoon. Total water requirement for the project is 11500 KLD~ 0.4 KL/tonne.
- (xv) Approval for withdrawal of Surface water & Ground water is not required as water will be sourced from mined out pit reservoir & mine water of West Bokaro Colliery lease area which is captive to Tata Steel Ltd.
- (xvi) Bokaro River/nalla is flowing from northern flank of the project boundary. The river will not be diverted. Aerial conveyor will be used to transport the material across the river
- (xvii) No court cases, violation cases are pending against the project of the PP
- (xviii) Total cost of the project is Rs.1917 Cr. Cost of production is about Rs.450/tonne. CSR cost will be as per company's act. R&R cost is not applicable. Environment Management Cost is about Rs.20 crores (Capital) & Rs.1 Crore recurring

48.4.3 The EAC during deliberations noted the following:

- The proposed project of West Bokaro Coking Coal Washery of capacity 10 00 MTPA (

Throughput) (Wet Process), Tata Steel Ltd comprising of 61.54 ha (Battery area 19.7 ha Transportation (conveyor) infrastructure 41.84 ha area in West Bokaro Division of Tata Steel Ltd.

- The project area (major part) was acquired by Tata Steel Ltd in 1951-52, which is being used for transportation of coal from West Bokaro Coal Mine to the captive Railway Siding at Chainpur. Later, it was notified as forest land in 1980 for which Forest Diversion Proposals have been submitted
- The total forest land involved is 46.83 Ha for which application for FC had been filed but Stage –I FC is availed by PP for 9.89 Ha of forest land only.
- PP had 2 existing washerys (Washery II of 2.5 MTPA and Washery III of 4.5 MTPA) of 7 MTPA within the mine lease area of West Bokaro Colliery. EC for 7.00 MTPA cumulative throughput capacity of existing washery was granted by MoEF&CC vide letter no J-1015/108/2006-I(A). II (M) dated 17.05.2007.
- The green belt proposed by PP 6.0 ha out of 61.54 ha of total project area against the requirement of 33% of the total project area i.e. at least 20.27 ha
- The alternate site analysis conducted by the PP was also submitted by PP
- PP had submitted the revised PFR superseding the already uploaded one at site

28.4.4 The EAC, after deliberations found that PP had not yet obtained the Stage I FC for entire forest area of 46.83 Ha though around 75 % of land has been proposed for washery in forest area. The alternate site analysis submitted by PP was not satisfactory as the option like using the OB dump area for washery set up etc have not been taken into account and instead a site located at a distance of 15 km, which is again entirely in forest area was considered. It was also found that the mine lease area of West Bokaro have 27 ha of non-forest area which can be utilize for washery instead of using forest area as Supreme Court had given strict order to avoid forest area for non-coal mining activity

EAC enquired about the enhancement of two already existing washerys inspite of going for new for which PP clarify that both the washerys are very old and blocking approximately 60 million tones mineable coal beneath it. Further, the green belt proposed by PP was not adequate as it is not even 10 % of the total project area i.e. 61.54 against the requirement of around 33%. So EAC had mandatorily recommended to revise the land use. EAC also opinioned that PP must come up with proper alternate site analysis by taking into consideration the suggestion of EAC with proper environmental cost benefit analysis. In light of this, EAC desired certain information from PP

- An alternate site analysis study to be conducted by PP by taking into consideration the non - forest area in adjoining areas and or on OB dump site of the West Bokaro Coal mine. Proper feasibility report shall be prepared in this regard.*
- Land use break up to be revised by considering the green belt to be 33% of the total project area*
- PP shall propose the layout of washery such that number of trees to be axed is reduced and accordingly reduce the area of washery*

The proposal is *deferred* on above lines.

Agenda No. 28.5

Nandira Underground Coal Mining Project of 0.33 MTPA in ML area 370 ha of M/s Mahanadi Coalfield Limited located in villages Jambubahali, Danara, Badajorada and Natedi, Tehsil Thalcher, District Angul (Odisha) - For Amendment in Environmental Clearance – reg.

[Online proposal IA/OR/CMIN/261567/2022, File No. J- 11015/866/2007 -I A (M)]

28.5.1 The proposal is for amendment in Environmental Clearance to Nandira Underground Coal Mining Project of 0.33 MTPA in ML area 370 ha of M/s Mahanadi Coalfield Limited located in villages Jambubahali, Danara, Badajorada and Natedi, Tehsil Thalcher, District Angul (Odisha).

28.5.2 The EAC during deliberations noted the following:

Environmental Clearance granted to Nandira Underground Coal mine project of 0.33 MTPA in ML area of 370 Ha (earlier 474 ha) by M/s Mahanadi Coalfield Ltd (MCL), located in villages Jambubahali, Danara, Badajorada and Natedi, Tehsil Talchar, District Angul (Odisha). This Environment clearance was obtained by PP vide Ministry's letter NoJ-11015/866/2007-IA.II(M), dated 18th June, 2007. Further revalidation of existing EC was granted vide letter No. J-L10L5/866/2007-IA.II(M) on 15th November, 2020

Subsequently, amendment in EC was granted for implementation of the conditions as stipulated below and Ministry granted amendment in EC on 16th September, 2021.

Now, PP had requested again the amendment in 4(i) and 4 (ii) seeking extension in timeline for implementation of said conditions.

S. No	Reference of Approved EC	Description as per Approved EC	Amendment sought per Proposal.	Remarks
2	Additional specific condition 4(i)	Construction of Sewage Treatment Plant (latest technology SBR/ MBBR/ MBR) should be completed by April 2022 and treated water shall be reused for plantation. As documentary proof, STP photograph after its commission to be submitted to RO, MOEF&CC with copies of its CTE and CTO.	Time extension kindly be granted till December 2022.	There is no change in configuration
3	Additional	Grant of CTO to the project shall	Time extension	There is no

	specific condition 4(ii)	be subject to fulfilment of condition No.1.	kindly be granted till December 2022.	change in configuration
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The amendment in the additional condition 4(i) and 4 (ii) of Amended EC letter no. J-11015/866/2007-IA.II(M) dated 16.09.2021 is requested by PP from MoEF&CC. Reason: After the due tendering process, the work of construction of STP (MBBR based) for the capacity of 0.5 MLD has been awarded to M/s. Red Circle Industries, Nagpur on dated: 23.08.2021 for a value of 2.80 crores with a timeline of 180 days from the date of execution of the agreement to complete the construction. Due to consecutive lockdowns/restrictions amidst the third wave of the COVID-19 pandemic, the work was totally disturbed in the months of late November and December'2021. Soon after relaxations declared by Govt. of Odisha, the contractor has accelerated the activities and the works like the alignment of sewer lines, ground cutting for laying HDPE pipelines to collect sewerage from each quarter up to STP site, construction of sewerage chamber, etc. have been completed, which is around 30% of total work. The remaining works like construction of STP, compound wall, approach road, etc. are yet to be done. As per the time-bound program, at least 70% of work has to be completed by this time.

MCL is pursuing the contractor regularly to complete the work as per the schedule, so as to comply with the stipulated condition within the extended timeline. But it is apprehended that the Contractor would not be able to complete the job within the timeline. Hence, PP is requesting MoEF&CC for a time extension for the construction of STP, which will be completed by Nov'2022 and operation of the same will be started by Dec'2022.

28.5.3. *The EAC after deliberations observed that the PP is sincerely pursuing the construction of STP and there is a genuine reason for the delay. PP could not build Sewage Treatment Plant i.e condition No. 4(i) and could not comply with given conditions and hence sought extension in timeline. Further, it was noted that PP has committed to comply the condition upto December 2022. In view of above facts, EAC **recommended** the proposal of amendment in Environment Clearance Condition no. 4(i) upto 31 December, 2022 to the Nandira Underground Coal mine project of 0.33 MTPA in ML area of 370 Ha (earlier 474 ha) by M/s Mahanadi Coalfield Ltd (MCL), located in villages Jambhbahali, Danara, Badajorada and Natedi, Tehsil Talchar, District Angul (Odisha), under the provisions of EIA Notification, 2006 and its amendments therein. All other conditions stipulated in EC dated 18th June, 2007, 15th November, 2020 and 16th September, 2021 shall remain unchanged.*

Agenda No. 28.6

Kalyan Khani OCP coal mine of 1.75 MTPA/ 2.00 MTPA (Normative/ Peak) in the mine lease area of 945.21 ha by M/s Singareni Collieries Co Ltd. located near Village Mandamarri, Tehsil Mandamarri, District Mancherial (Erstwhile Adilabad) (Telangana)- For Amendment in Environmental Clearance – reg.

28.6.1 The proposal is for amendment in existing Environmental Clearance Condition to Kalyan Khani OCP coal mine of 1.75 MTPA/ 2.00 MTPA (Normative/ Peak) in the mine lease area of 945.21 ha by M/s Singareni Collieries Co Ltd. located near Village Mandamarri, Tehsil Mandamarri, District Mancherial (Erstwhile Adilabad) (Telangana).

PP is requesting for the amendment in the said condition 4A(iv) w.r.t to continue the transportation by road for a further period of 2 years i.e. upto 19th March, 2024

28.6.2 The EAC during deliberations noted the following:

- Environment Clearance for Kalyan Khani OCP coal mine of 1.75 MTPA/ 2.00 MTPA (Normative/ Peak) in the mine lease area of 945.21 ha by M/s Singareni Collieries Co Ltd. located near Village Mandamarri, Tehsil Mandamarri, District Mancherial (Erstwhile Adilabad) (Telangana) was granted by Ministry on 19th March, 2015 with *inter-alia* following EC condition:

Specific Condition 4(A) (iv) “Mechanical covered truck should be used for transportation of coal within 5 years. Conveyor belt should be installed in the 5th year”.

- Further, extension in this EC condition was granted by Ministry i.e extending timeline to implement the said condition till 19th March, 2022 with all terms and conditions therein remaining the same.
- Now, PP is requesting again for the amendment in the said condition 4A(iv) w.r.t to continue the transportation by road for a further period of 2 years i.e. upto 19th March, 2024
- Earlier, it was proposed to construct a centrally located CHP on the Balharshah-Kazipet route of South Central Railway to transport coal from KK OC and other upcoming mines viz., Sravanapalli OC, KK-6 Incline, etc., by rail. Due to non-allocation of above two coal blocks by MoC on reservation basis, the proposal of constructing centrally located CHP and laying of conveyor belt from KK OCP to proposed CHP is withdrawn.
- Now, PP has proposed alternative mechanism to establish a siding on the existing railway line which belongs to M/s Orient Cement Ltd., Devapur and is located at a distance of around 10 km on the west side of KK OCP having an exclusive railway line from Mandamarri Railway station, passing adjacent to the project. Accordingly, PP vide its letter Ref. No. CRP/ENV/A/495/230 dated 6th April, 2022 has submitted the commitment letter to establish the proposed railway siding within the stipulated period of two years and further requested to allow them continue the coal transport by road mode for two years i.e. upto 19th March, 2024.

28.6.3 *The EAC after deliberation observed that PP took considerable time to comply the condition of belt conveyor with railway siding and citing the reasons of non-finalization/allotment of other mines. EAC pointed out that it is lackadaisical approach and non-seriousness for implementation. Earlier 2 years for installation of conveyor belt to railway siding was granted but now PP is requesting its coal transportation linkage with other proposal and asking for another 2 years' time. While considering this request with new proposal, EAC emphasized that PP shall expedite the work with Railways as early as possible and ask the PP to give written commitment for completion of the work. The PP had provided the commitment vide letter dated 06.04.2022 for completion of the work in 2 years*

*In light of above, EAC **recommended** the amendment in EC condition and extending the timeline to Kalyan Khani OCP coal mine of 1.75 MTPA/ 2.00 MTPA (Normative/ Peak) in the mine lease area of 945.21 ha by M/s Singareni Collieries Co Ltd. located near Village Mandamarri, Tehsil Mandamarri, District Mancherial (Erstwhile Adilabad) (Telangana) till 31st December, 2023 for road transportation and to implement the railway siding with conveyor belt on railway line of M/s Orient Cement Ltd, under the provisions of EIA Notification, 2006 and subsequent amendments/circulars thereto subject to the compliance of the following terms & conditions / specific conditions for environmental safeguards:*

- (i) CTO shall be granted for road transportation till December 2023 and meanwhile PP to implement the specific condition of belt conveyor with railway siding.*
- (ii) No village road shall be used for transportation of coal and no road transport route shall be adopted, which is passing through any sensitive location such as schools, hospitals etc. PP shall take legal undertaking from its consumers accordingly.*
- (iii) PP shall plant 150,000 nos. of native trees with broad leaves along the transportation route in three years to prevent the effect of air pollution. After completion of tree plantation, number of trees shall be duly endorsed from District Forest Officer*
- (iv) PP shall deploy only 40-50 tonnes covered trucks/dumper to reduce fleet size*
- (v) PP shall deploy of atleast 10 nos of fog cannon for mitigation of fugitive dust on the haul road, OB dump and transportation route.*
- (vi) PP shall implement Peripheral tree plantation along the mine lease area with miyawaki method of 50 mts width within 2 years through independent expert*
- (vii) PP shall pay to farmers of agricultural land if there is any loss due to pollution found by concerned District Commissioner as per extent rules or norms.*
- (viii) Hon'ble Supreme Court in an Writ Petition(s) Civil No. 114/2014, Common Cause vs Union of India & Ors vide its judgement dated 8th January, 2020 has directed the Union of India to impose a condition in the mining lease and a similar condition in the environmental clearance and the mining plan to the effect that the mining lease holders shall, after ceasing mining operations, undertake re-grassing the mining area and any other area which may have been disturbed due to their mining activities and restore the land to a condition which is fit for growth of fodder, flora, fauna etc. Compliance of this condition after the mining activity is over at the cost of the mining lease holders/Project Proponent". The implementation report of the above said condition shall be sent to the Regional Office of the MoEF&CC.*

Agenda No. 28.7

Bhubaneshwari Opencast Expansion Project of 28 MTPA in existing ML area of 638.341 ha of M/s Mahanadi Coal Fields Ltd, Tehsil Talcher, District Angul (Odisha) - For Reconsideration of Amendment in Environmental Clearance – reg.

[Online proposal IA/OR/CMIN/255383/2022, File No. J-11015/280/2013-IA-II(M)pt]

28.7.1 The proposal is for Amendment in Environmental Consideration to Bhubaneshwari Opencast Expansion Project of 28 MTPA in existing ML area of 638.341 ha of M/s Mahanadi Coal Fields Ltd, Tehsil Talcher, District Angul (Odisha)

28.7.2 The EAC during deliberations noted the followings:

Earlier the proposal was considered by EAC in its 27th EAC meeting held on 3 and 4 March, 2022 and was deferred for want of additional information. The reply to the ADS was submitted by the PP on date 18.03.2022. PP has submitted the Compliance of the ADS raised by the EAC is detailed as below:

Sr. No.	ADS	Compliance															
1	PP shall provide the details of progressive mine closure activities for final mine closure as life of mine is 5 years as on date 01.04.2021.	<p>In proposed amendment proposal the total excavation area is 583.752 Ha. Out of total excavation area 326.844 Ha will be biologically reclaimed and 242.808 will remain as unfilled void. Year wise biological reclamation programme of internal dump as per approved progressive mine closure plan is given below:</p> <table><tr><th>Year</th><th>Year wise biologically reclamation (plantation/grass carpeting)</th><th>Cumulative biologically reclamation</th></tr><tr><td></td><td>Area in Ha</td><td>Area in Ha</td></tr><tr><td>Upto March'22</td><td>32.00</td><td>32.00 (Plate 1)</td></tr><tr><td>3rd Year</td><td>241.01</td><td>273.01 (Plate 2)</td></tr><tr><td>5th Year</td><td>53.834</td><td>326.844* (Plate 3)</td></tr></table> <p>* Out of total biologically reclaimed area of 326.844 Ha,</p>	Year	Year wise biologically reclamation (plantation/grass carpeting)	Cumulative biologically reclamation		Area in Ha	Area in Ha	Upto March'22	32.00	32.00 (Plate 1)	3 rd Year	241.01	273.01 (Plate 2)	5 th Year	53.834	326.844* (Plate 3)
Year	Year wise biologically reclamation (plantation/grass carpeting)	Cumulative biologically reclamation															
	Area in Ha	Area in Ha															
Upto March'22	32.00	32.00 (Plate 1)															
3 rd Year	241.01	273.01 (Plate 2)															
5 th Year	53.834	326.844* (Plate 3)															

		<p>plantation will be done on 84.0 Ha and remaining 242.844 Ha will be grass carpeted.</p> <p>However, the mine is further planned to be expanded towards eastern side, therefore final mine closure plan will be prepared 5 years before the completion of expansion project.</p>
2	PP shall furnish the layout plan of both adjacent mines i.e (Bhubaneswari & Arkhapal) indicating their OB dump areas	There is no such mine named Arkhapal, it is only a geological block which is part of existing Bhubaneswari OCP. In proposed amendment there is no change in Mine lease area, only external dump located towards northern boundary of the mine (within lease) will be rehandled back to the quarry. This external dump is over Arkhapal A Geological Block well within existing lease area of Bhubaneswari OCP. The adjacent mine of existing Bhubaneswari OCP is Ananta OCP (Eastern side) and Lingaraj OCP (Southern side).
3	PP must provide the copy of EC of the Arkhapal Mine with its layout plan	Arkhapal is not a mine, it is only a geological block which is part of existing Bhubaneswari OCP. Hence copy of EC letter is not applicable
4	PP must provide the Approval letter of the revised mine plan of existing mine.	Revised Mining Plan was submitted by PP duly approved by MCL Board in its meeting held on 20.01.2022 & by vide letter no. MCL/SBP/CS/BD/243/Exct/2022/12291 dt: 01.02.2022
5	PP must explore the plan to reduce the over burden by sand extraction and orby backfilling	In proposed amendment, external dump located towards northern boundary of the mine (within lease) will be backfilled into the mine void. There will be no external dumping in proposed proposal

PP has requested for amendment in EC as per Generic Conditions No (i) “No change in mining technology and scope of work shall be made without prior approval of the ministry of Forest and Climate Change No change in the calendar plan including excavation, quantum of coal and waste should be made”. It is due to change in Mining parameters which are mentioned below

- Excavation area will increase and external dump area will reduce
- Change in mineable reserve, life and stripping ratio
- Change in production built up and schedule

Due to non-evacuation of some villages namely Hensmul Talasahi and Saharsahi Basti Areas the working zone area is being reduced in the absence of any other land and to maintain continuity in production, the external dump area is proposed to be re handled, which is already within the approved mine lease area. Availability of Coal deposit below External OB Dump is about 41.97 MTPA and OB to be handled shall be about 62.15 MCUM

The impact of instant extraction and OB rehandling have air emission close to 94-98 ug/m3 at villages

namely Anandipur, Kandhal, Natedi, Near Joragadia, sahasahi basti. Adequate Environment mitigation measures was proposed to be implemented.

PP vide its letter Ref. No.PO/BBSRI-OCP/Envt./2019/2989 dated 16th May, 2019 has submitted that forest land of 20.383 ha is not involved in the present mine lease area of Bhubaneswari OCP. The mine lease area of the project is 638.341 ha for which Mine Plan & Mine Closure Plan, EC, CTE & CTO are also obtained.

PP vide its letter refer no. MCL/GM/BBSRI/ENVT./EC/2022-23/2094 dated 2nd April, 2022 clarified that existing EC is for total mine lease area of 638.321 ha involving 112.521 ha of forest land for which Stage II FC is available vide letter no. 8-18/2002/89-FC dated 6-12-2004. Further, additional control measures with budget estimate of Rs. 7.02 Crore have been proposed to mitigate the additional air pollution (mobile fog cannon, mobile water tanker, mechanical road sweeper, state fog cannon, wheel washing system, vertical greenery system & bamboo plantation and plantation) due to rehandling

28.7.3 The EAC, after deliberations observed that PP intends to change the mine excavation area, within same mine lease area. Earlier, PP had created external overburden dump on coal bearing area and now it is proposed to rehandle the OB dump and plan to extract the coal beneath it. It implies to lack of future planning and improper mine plan and sequence of mine operations. The rehandling of OB and further extraction of coal will create emission interms of extra OB handling. EAC also mandatorily recommended the PP to opt progressive mine closure activities as the life of mine 5 years as per the revised mining plan submitted by PP.

Further, EAC queried about the OB dumping and Excavation area. EAC also enquired about the forest area included and its Stage –I status for which the PP submitted that mine lease of the project is 638.341 ha for which Mine Plan & Mine Closure Plan, EC, CTE & CTO are also obtained and no Stage-I FC is pending for mine lease area.

In light of above, EAC recommended the amendment in Environment Clearance for extraction of coal under external OB dump (rehandling of OB dump) to Bhubaneshwari Opencast Expansion Project of 28 MTPA in existing ML area of 638.341 ha of M/s Mahanadi Coal Fields Ltd, Tehsil Talcher, District Angul (Odisha) without any increase in production capacity and change in mine lease area, under the provisions of EIA Notification, 2006 and subsequent amendments/circulars thereto subject to the compliance of the following terms & conditions / specific conditions for environmental safeguards:

(ix) PP to install 1 continuous ambient air quality monitoring stations at suitable locations 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. Data shall be linked to website of SPCB/CPCB. Monitoring station shall be installed within 1-year period and action taken report shall be submitted to IRO with photoigraphs.

(x) PP shall make use of advanced computer simulation techniques for design and execution of

blasting operation in the mine. PP shall make use of Electronic Delay Detonators for optimal blasting in coal and OB rock to minimize the environmental impacts of blasting such as ground vibration, fly rocks and excessive dust generation.

- (xi) No village road shall be used for transportation of coal and no road transport route shall be adopted, which is passing through any sensitive location such as schools, hospitals etc. PP shall take legal undertaking from its consumers accordingly*
- (xii) PP shall conduct tree plantation along the villages namely Anandipur, Kandhal, Natedi, Near Joragadia, sahasahi basti and deploy additional atleast 10 number fog canon to reduce air emission.*
- (xiii) PP shall furnish the proof of an expenditure as per its letter refer no. MCL/GM/BBSRI/ENVT./EC/2022-23/2094 dated 2nd April, 2022 of about 7.02 Crores on air pollution control measures within one year to Ministry's IRO.*
- (xiv) PP shall plant additional 150,000 nos. of native trees with broad leaves along the transportation route in three years to prevent the effect of air pollution. After completion of tree plantation, number of trees shall be duly endorsed from District Forest Officer*
- (xv) PP shall deploy only 40-50 tonnes covered trucks/dumper to reduce fleet size*
- (xvi) PP shall implement Peripheral tree plantation along the mine lease area with miyawaki method of 50 mts width within 2 years through independent expert*
- (xvii) PP shall pay to farmers of agricultural land if there is any loss due to pollution found by concerned District Commissioner as per extent rules or norms.*
- (xviii) Hon'ble Supreme Court in an Writ Petition(s) Civil No. 114/2014, Common Cause vs Union of India & Ors vide its judgement dated 8th January, 2020 has directed the Union of India to impose a condition in the mining lease and a similar condition in the environmental clearance and the mining plan to the effect that the mining lease holders shall, after ceasing mining operations, undertake re-grassing the mining area and any other area which may have been disturbed due to their mining activities and restore the land to a condition which is fit for growth of fodder, flora, fauna etc. Compliance of this condition after the mining activity is over at the cost of the mining lease holders/Project Proponent". The implementation report of the above said condition shall be sent to the Regional Office of the MoEF&CC.*

Agenda No. 28.8

Gayatri Underground Coal Mining Project 0.30 MTPA in ML area 507.472 ha M/s South Eastern Coalfields Limited located at village Getra, Tehsil Ambikapur, District Surguja (Chhattisgarh) – For Reconsidering the Revalidation of Environmental Clearance-reg

[Online proposal IA/MP/CMIN/66198/2001, File. No. J-11015/26/2000-IA.II]

28.8.1 The proposal is for Revalidation of Environmental Consideration to Gayatri Underground Coal Mining Project 0.30 MTPA in ML area 507.472 ha M/s South Eastern Coalfields Limited located at village Getra, Tehsil Ambikapur, District Surguja (Chhattisgarh) under the provisions of Ministry's Notification dated 6th April, 2018

Minutes of 28th EAC (Coal Mining Sector) held on 1st April, 2022

28.8.2 The EAC during deliberations noted the followings:

Earlier the proposal was considered by EAC in its 44th EAC meeting held on 25.04.2019 and was deferred for want of additional information. The compliance of observation of EAC has been submitted now by project proponent after a delay of almost 2-3 years i.e. 11.03.2022. Accordingly, EAC noted the submission of project proponent as detailed below:

Sr. No.	ADS	Compliance								
1	Public Notice shall be issued through concerned SPCB for information of the shareholders about the present coal mining operations inviting comments and their redressal	Public Notice published in two newspapers i.e Nav Bharat (Hindi) and Times of India (English) on 04.12.2021 through R.O., CECB Ambikapur. Date of Publication: 04.12.2021 No Comment/Suggestion received. Letter from Regional Office Ambikapur CECB was displayed								
2	Mining Plan and Progressive Mine Closure Plan duly approved by the competent authority	Revised mining plan for 0.30 MTPA approved vide letter no. SECL: BSP:BD:SECY:104 BMM: 99/106 dated 16.04.1999 Progressive Mine closure plan for 0.30 MTPA approved vide letter no. SECL/BSP/CAD/221 BM EXT/13-14/650 dated 01.02.2014 (item No. 2241:4:12)								
3	Compliance status of the conditions stipulated in the Environmental Clearance from the concerned Regional Office of the Ministry	RO inspection Date – 19/5/2017 Action Taken as on 25.03.2022 on compliance of RO Compliance report Six Monthly EC Compliance report submitted to APCCF, MOEF & CC, Regional Office Nagpur. Vide letter No. SOM/GP/66/2021/1407 dt. 14.12.2021								
4	Valid Consent to Operate from state pollution control board for the present mining Operations.	Consent to Operate accorded by CECB, Raipur vide letter No. 4131/TS/CECB/2021 dated 07/09/2021 valid upto 28.11.2022								
5	Redressal of Issue raised during the public hearing conducted by SPCB	Public Hearing conducted on 12.11.1999. Compliance of issue raised during public hearing Action taken report as on 25.03.2022 for compliance of public hearing issues								
6	Coal Production realized from mine from 1993-94 vis-à-vis capacity stipulated in the Environmental Clearance	Coal Production never exceeded from the EC Capacity of 0.3 MTPA <table><tr><th>S.</th><th>Year</th><th>EC Sanctioned</th><th>Actual</th></tr><tr><td></td><td></td><td></td><td></td></tr></table>	S.	Year	EC Sanctioned	Actual				
S.	Year	EC Sanctioned	Actual							

		No.		Capacity (MTPA)	Production (MTPA)
		1	2003-04	0.30	0.010
		2	2004-05	0.30	0.049
		3	2005-06	0.30	0.081
		4	2006-07	0.30	0.084
		5	2007-08	0.30	0.106
		6	2008-09	0.30	0.107
		7	2009-10	0.30	0.230
		8	2010-11	0.30	0.282
		9	2011-12	0.30	0.245
		10	2012-13	0.30	0.229
		11	2013-14	0.30	0.226
		12	2014-15	0.30	0.219
		13	2015-16	0.30	0.226
		14	2016-17	0.30	0.297
		15	2017-18	0.30	0.238
		16	2018-19	0.30	0.250
		17	2019-20	0.30	0.250
		18	2020-21	0.30	0.193
		19	2021-22 (as on 24.03.2022)	0.30	0.121
7	Need assessment survey for the activities proposed under the CSR and the comprehensive plan to be prepared accordingly for implementation by the project proponent. Also, impact of the CSR activities undertaken at an interval of 5 years to be evaluated and a report to be submitted	<ul style="list-style-type: none"> Impact Assessment Report of CSR Activities of South Eastern Coalfields Limited, Bilaspur from FY 2010-11 to FY 2015-16 and Social Audit of Community Benefit Measures” by NIT Rourkela. Work order for carrying Impact Assessment Report of CSR Activities of South Eastern Coalfields Limited, Bilaspur from FY 2016-17 to FY 2020-21 issued to Indira Gandhi National Tribal University Amarkantak on 21/02/2022 <p>CSR activities going on as per the direction of District Administration</p>			
8	Forest Clearance for diversion of 17.50 Ha of forest land as required under the Forest (Conservation) Act, 1980	Forest Clearance for Rehar & Gayatri UG Mine combined total forest land of 547.012 Ha vide letter No. 8-90/99-FC dated 27.09.2000			
9	Details of Court Case and the compliance of the orders, if any	No court Case			

28.8.3 The EAC, after deliberations observed that even after 2-3 years of ADS raised on the project for revalidation of previous EC, PP has not submitted the latest Certified Compliance report, need based assessment report instead submitted its six-monthly compliance report, which shall not be considered as acceptable. Also, PP has not submitted/provided the budgetary provisions of action taken for issues raised during public hearing and need based assessment has not been carried over. The Committee expressed displeasure on PP and consultant that without proper documents, it is uploaded on Parivesh and cautioned PP not to repeat this again. Accordingly, EAC desired the following information:

- (i) PP shall submit latest certified compliance report from IRO
- (ii) PP shall submit need based assessment study as desired by EAC earlier for revalidations.
- (iii) The budgetary provision and time line for action taken or proposed for public hearing to be furnished by the PP.
- (iv) PP must furnish the Impact Assessment Report of CSR Activities of South Eastern Coalfields Limited, Bilaspur from FY 2010-11 to FY 2015-16 and Social Audit of Community Benefit Measures” carried out by NIT Rourkela
- (v) PP must take proper follow up from Indira Gandhi National Tribal University Amarkantak and provide Impact Assessment Report of CSR Activities of South Eastern Coalfields Limited, Bilaspur from FY 2016-17 to FY 2020-21
- (vi) PP must also provide the proposed CSR activities and EMP measure with its proper bifurcation to be taken by PP in coming years with budgetary provision and time bound action plan

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

Agenda No. 28.9

Patherdih NLW Coal washery with 2.5 MTPA production capacity in an area of 17.5 ha by M/s Bharat Coking Coal Limited located in South East of Jharia Coalfield, District Dhanbad (Jharkhand)- For Extension of validity of Environmental Clearance

[Online proposal IA/JH/CMIN/260875/2022, File. No. J-11015/177/2014-IA-II(M)]

28.9.1 The proposal is for extension of validity of Environmental Clearance of Patherdih NLW Coal washery with 2.5 MTPA production capacity in an area of 17.5 ha by M/s Bharat Coking Coal Limited located in South East of Jharia Coalfield, District Dhanbad (Jharkhand)

28.9.2 The EAC during deliberations noted the following

- (i) Earlier, the environment clearance to the project was obtained under EIA Notification, 2006 vide Ministry’s letter No. J-11015/177/2014-IA-II(M) dated 6th July, 2015 for 2.5 MTPA in lease area. Minutes of 28th EAC (Coal Mining Sector) held on 1st April, 2022

of 17.5 Ha.

- (ii) Consent to operate (CTO) was obtained from the State Pollution Control Board on 22.12.2015 and is valid till two years from date of issue.

PP has requested for extension in validity of EC since PP was not able to commence the washery due to delay in construction work however the work has been assigned to ACB(L) for setting up of washery. In this context, PP has requested for extension of validity as the life of project is 18 years as per existing EC.

Ministry's notification dated 18th January, 2021 stipulates the following:

"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."

*28.9.3 The EAC, after deliberations observed that as per S.O. 221 (E) of MoEF&CC dated 18th January, 2021 the period from 01.04.2020 to 31.03.2021 shall not be considered for the purpose of calculation of the period of validity of prior environment clearance. Accordingly, the instant EC is valid till 5th July, 2023 so this proposal may be **returned** to the PP. EAC desired that PP shall implement the project in a timely with compliance of earlier EC conditions.*

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. Environmentally 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-IA.11 (M) dated 27th May, 2009 issued by Ministry of Environment, Forest and Climate Change shall also be referred in this regard for its compliance.
 - (iii) Regular monitoring of ground water level and quality shall be carried out in and

- around the mine lease area by establishing a network of existing wells and constructing new piezometers during the mining operations. The monitoring of ground water levels shall be carried out four times a year i.e. pre-monsoon, monsoon, post-monsoon and winter. The ground water quality shall be monitored once a year, and the data thus collected shall be sent regularly to MOEFCC/RO.
- (iv) Monitoring of water quality upstream and downstream of water bodies shall be carried out once in six months and record of monitoring data shall be maintained and submitted to the Ministry of Environment, Forest and Climate Change/Regional Office.
 - (v) Ground water, excluding mine water, shall not be used for mining operations. Rainwater harvesting shall be implemented for conservation and augmentation of ground water resources.
 - (vi) Catch and/or garland drains and siltation ponds in adequate numbers and appropriate size shall be constructed around the mine working, coal heaps & OB dumps to prevent run off of water and flow of sediments directly into the river and water bodies. Further, dump material shall be properly consolidated/compacted and accumulation of water over dumps shall be avoided by providing adequate channels for flow of silt into the drains. The drains/ponds so constructed shall be regularly de-silted particularly before onset of monsoon and maintained properly. Sump capacity should provide adequate retention period to allow proper settling of silt material. The water so collected in the sump shall be utilised for dust suppression and green belt development and other industrial use. Dimension of the retaining wall constructed, if any, at the toe of the OB dumps within the mine to check run-off and siltation should be based on the rainfall data. The plantation of native species to be made between toe of the dump and adjacent field/habitation/water bodies.
 - (vii) Adequate groundwater recharge measures shall be taken up for augmentation of ground water. The project authorities shall meet water requirement of nearby village(s) after due treatment conforming to the specific requirement (standards).
 - (viii) Industrial waste water generated from CHP, workshop and other waste water, shall be properly collected and treated so as to conform to the standards prescribed under the standards prescribed under Water Act 1974 and Environment (Protection) Act, 1986 and the Rules made there under, and as amended from time to time. Adequate ETP /STP needs to be provided.
 - (ix) The water pumped out from the mine, after siltation, shall be utilized for industrial purposive. watering the mine area, roads, green belt 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 intervention shall be provided for sustenance of aquatic life therein. The remaining area shall be backfilled and covered with thick and alive top soil. Post-mining land shall be rendered usable for agricultural/forestry purposes and shall be diverted. Further action will be treated as specified in the guidelines for Preparation of Mine Closure Plan issued by the Ministry of Coal dated 27th August, 2009 and subsequent amendments.
 - (iii) The entire excavated area, backfilling, external OB dumping (including top soil) and afforestation plan shall be in conformity with the “during mining”/“post mining” land-use pattern, which is an integral part of the approved Mining Plan and the EIA/EMP submitted to this Ministry. Progressive compliance status vis-a-vis the post mining land use pattern shall be submitted to the MOEFCC/RO.
 - (iv) Fly ash shall be used for external dump of overburden, backfilling or stowing of mine as per provisions contained in clause (i) and (ii) of subparagraph (8) of fly ash notification issued vide SO 2804 (E) dated 3rd November, 2009 as amended from time to time. Efforts shall be made to utilize gypsum generated from Flue Gas Desulfurization (FGD), if any, along with fly ash for external dump of overburden, backfilling of mines. Compliance report shall be submitted to Regional Office of MoEF&CC, CPCB and SPCB.
 - (v) Further, it may be ensured that as per the time schedule specified in mine closure plan it should remain live till the point of utilization. The topsoil shall temporarily be stored at earmarked site(s) only and shall not be kept unutilized. The top soil shall be used for land reclamation and plantation purposes. Active OB dumps shall be stabilised with native grass species to prevent erosion and surface run off. The other overburden dumps shall be vegetated with native flora species. The excavated area shall be backfilled and afforested in line with the approved Mine Closure Plan. Monitoring and management of rehabilitated areas shall continue until the vegetation becomes self-sustaining. Compliance status shall be submitted to the Ministry of Environment, Forest and Climate Change/ Regional Office.
 - (vi) The project proponent shall make necessary alternative arrangements, if grazing land is involved in core zone, in consultation with the State government to provide alternate areas for livestock grazing, if any. In this context, the project proponent shall implement the directions of Hon'ble Supreme Court with regard to acquiring grazing land.
 - (g) **Green Belt**

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

(h) Public hearing and Human health issues

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

(i) Corporate Environment Responsibility

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

- bring into focus any infringements/deviation/violation of the environmental/forest/wildlife norms/conditions. The company shall have defined system of reporting infringements/deviation/violation of the environmental/forest/wildlife norms/conditions and/or shareholders/stake holders.
- (iii) A separate Environmental Cell both at the project and company head quarter level, with qualified personnel shall be set up under the control of senior Executive, who will directly to the head of the organization.
 - (iv) Action plan for implementing EMP and environmental conditions along with responsibility matrix of the company shall be prepared and shall be duly approved by competent authority. The year wise funds earmarked for environmental protection measures shall be kept in separate account and not to be diverted for any other purpose. Year wise progress of implementation of action plan shall be reported to the Ministry/Regional Office along with the Six Monthly Compliance Report.
 - (v) Self-environmental audit shall be conducted annually. Every three years third party environmental audit shall be carried out.
- (j) Miscellaneous**
- (i) The project proponent shall make public the environmental clearance granted for their project along with the environmental conditions and safeguards at their cost by prominently advertising it at least in two local newspapers of the District or State, of which one shall be in the vernacular language within seven days and in addition this shall also be displayed in the project proponent's website permanently.
 - (ii) The copies of the environmental clearance shall be submitted by the project proponents to the Heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt.
 - (iii) The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and update the same on half-yearly basis.
 - (iv) The project proponent shall monitor the criteria pollutants level namely; PM₁₀, SO₂, NO_x (ambient levels) or critical sectoral parameters, indicated for the projects and display the same at a convenient location for disclosure to the public and put on the website of the company.
 - (v) The project proponent shall submit six-monthly reports on the status of the compliance of the stipulated environmental conditions on the website of the ministry of Environment, Forest and Climate Change at environment clearance portal.
 - (vi) The project proponent shall follow the mitigation measures provided in this Ministry's OM No. Z-11013/5712014-IA.11 (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 airborne 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-IA.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 purposive. watering the mine area, roads, green belt development etc. The drains shall be regularly desilted particularly after monsoon and maintained properly.
- ix. Industrial waste water from coal handling plant and mine water shall be properly collected and treated so as to conform to the standards prescribed under the Environment (Protection) Act, 1986 and the Rules made thereunder, and as amended from time to time. Oil and grease trap shall be installed before discharge of workshop effluent. Sewage treatment plant of adequate capacity shall be installed for treatment of domestic waste water.
- x. Adequate groundwater recharge measures shall be taken up for augmentation of ground water. The project authorities shall meet water requirement of nearby village(s) in case the village wells go dry due to dewatering of mine.
- xi. The surface drainage plan including surface water conservation plan for the area of influence affected by the said mining operations shall be prepared,

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

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

IV. Noise and Vibration monitoring and prevention

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

V. Mining Plan

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

conservation, efficiency improvements and use of renewable energy.

VI. Land reclamation

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

VII. Green Belt

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

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

VIII. Public hearing and Human health issues

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

IX. Corporate Environment Responsibility

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

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

X. Miscellaneous

- i. The project proponent shall make public the environmental clearance granted for their project along with the environmental conditions and safeguards at their cost by prominently advertising it at least in two local newspapers of the District or State, of which one shall be in the vernacular language within seven days and in addition this shall also be displayed in the project proponent's website permanently.
- ii. The copies of the environmental clearance shall be submitted by the project proponents to the Heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt.
- iii. The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and update the same on half-yearly basis.
- iv. The project proponent shall submit six-monthly reports on the status of the compliance of the stipulated environmental conditions on the website of the ministry of Environment, Forest and Climate Change at environment clearance portal.
- v. The project proponent shall submit the environmental statement for each financial year in Form-V to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently and put on the website of the company.
- vi. The project authorities shall inform to the Regional Office of the 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. Therecommendations of the approved Site-Specific Conservation Plan / Wildlife Management Plan shall be implemented in consultation with the State ForestDepartment. The implementation report shall be furnished along with the six-monthly compliance report. (incase of the presence of schedule-I species in thestudy 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 CentralGround Water Authority.
- (vi) Solid waste/hazardous waste generated in the washery needs to addressed inaccordance 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 onthe 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 statutebe established in the core zone as well as in the buffer zone for monitoring ofpollutants, namely PM₁₀, PM_{2.5}, SO₂ and NO_x. Location of the stations shall be decided based on themeteorological data, topographical features and environmentally and ecologically sensitivetargets in consultation with the

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

III. Water quality monitoring and preservation

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

- time to time by the Central Pollution Control Board.
- ii. The monitoring data shall be uploaded on the company's website and displayed at the project site at a suitable location. The circular No. J-20012/1/2006-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 green belt comprising of a mix of native species, of minimum 30 m width shall be developed all along the washery area to check fugitive dust emissions and to render aesthetic to neighbouring stakeholders. A 3-tier green belt comprising of a mix of native species or tree species with thick leaves shall be developed along vacant areas, storage yards, loading/transfer points and also along internal roads/main approach roads.
- ii. The project proponent shall make necessary alternative arrangements, if grazing land is involved in core zone, in consultation with the State government to provide alternate areas for livestock grazing, if any. In this context, the project proponent shall implement the directions of Hon'ble Supreme Court with regard to acquiring grazing land.

VII. Public hearing and Human health issues

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

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

VIII. Corporate Environment Responsibility

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

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

IX. Miscellaneous

- i. The project proponent shall make public the environmental clearance granted for their project along with the environmental conditions and safeguards at their cost by prominently advertising it at least in two local newspapers of the District or State, of which one shall be in the vernacular language within seven days and in addition this shall also be displayed in the project proponent's website permanently.
- ii. The copies of the environmental clearance shall be submitted by the project proponents to the Heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt.
- 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 period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.

ANNEXURE-IV

Generic ToR for coal washery

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

Competent Authority for its drawl.

- xi. The entire sequence of mineral production, transportation, handling, transfer and storage of mineral and waste, if any, and their impacts on air quality should be shown in a flow chart with specific points where fugitive emissions can arise and specific pollution control/mitigative measures proposed to be put in place. The washed coal and rejects should be transported by train as far as possible. Road transport of washed coal and rejects should generally be avoided. In case, the TPP is within 10km radius, it should be through conveyor belt. If transport by rail is not feasible because of the topography of the area, the option for transport by road should be examined in detail and its impacts along with the mitigation measures should be clearly brought out in EIA/EMP report.
- xii. Details of various facilities proposed to be provided in terms of parking, rest areas, canteen etc. to the personnel involved in mineral transportation, workshop and effluents/pollution load from these activities should be provided.
- xiii. Impacts of CHP, if any, on air and water quality should also be spelt out along with Action Plan.
- xiv. O.M.no.J-II0I3/25/2014-IA.I dated 11th August, 2014 to be followed with regard to CSR activities.
- xv. Details of Public Hearing, Notice(s) issued in newspapers, proceedings/minutes of Public Hearing, points raised by the general public and response/commitments made by the proponent along with the Action Plan and budgetary provisions be submitted in tabular form. If the Public Hearing is in the regional language, an authenticated English translation of the same should be provided. Status of any litigations/ court cases filed/pending, if any, against the project should be mentioned in EIA.
- xvi. Analysis of samples indicating the following be submitted:
 - Characteristics of coal prior to washing (this includes grade of coal, other characteristics of ash, S and heavy levels of metals such as Hg, As, Pb, Cr etc).
 - Characteristics and quantum of coal after washing.
 - Characteristics and quantum of coal rejects.
- xvii. Details of management/disposal/use of coal rejects should be provided. The rejects should be used in TPP located close to the washery as far as possible. If TPP is within a reasonable distance (10 km), transportation should be by conveyor belt. If it is far away, the transportation should be by rail as far as possible.
- xviii. Copies of MOU/Agreement with linkages (for stand-alone washery) for the capacity for which EC is being sought should be submitted.
- xix. Corporate Environment Responsibility:
 - a) The Company must have a well laid down Environment Policy approved

by the Board of Directors.

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

ANNEXURE-V

GENERIC TOR FOR AN OPENCAST COALMINE PROJECT for EC

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

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

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

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

- (xii) Break-up of lease/project area as per mining plan should be provided.
- (xiii) Impact of changes in the land use due to the project if the land is predominantly agricultural land/forestland/grazing land, should be provided.
- (xiv) One-season (other than monsoon) primary baseline data on environmental quality - air (PM₁₀, 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 maximizing progressive internal dumping of O.B., sequential mining, external dump on coal bearing area and later rehandling into the mine void. --to reduce land degradation.
- (xxix) Impact of change in land use due to mining operations and plan for restoration of the mined area to its original land use should be provided.
- (xxx) Progressive Green belt and ecological restoration /afforestation plan (both in text, figures and in the tabular form as per the format of MOEFCC given below) and selection of species (native) based on original survey/land-use should be given.

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

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

* As a representative example

Table 2 : Stage Wise Cumulative Plantation

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

* As a representative example

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

restoration of the mined out area and post mining landuse should be prepared with detailed cost provisions. Impact and management of wastes and issues of re-handling (wherever applicable) and backfilling and progressive mine closure and reclamation should be furnished.

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

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

- (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 FOREST LAND (ha)	Date of FC	Extent of forestland	Balance area for which FC is yet to be obtained	Status of appl for. diversion of forest land
		If more than, provide details of each FC			

GENERIC TORs FOR AN UNDERGROUND COAL MINE PROJECT

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

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

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

Area under Surface Rights

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

- (viii) Study on the existing flora and fauna in the study area (10km) should be carried out by an institution of relevant discipline. The list of flora and fauna duly authenticated separately for the core and study area and a statement clearly specifying whether the study area forms a part of the migratory corridor of any endangered fauna should be given. If the study area has endangered flora and fauna, or if the area is occasionally visited or used as a habitat by Schedule-I species, or if the project falls within 15 km of an ecologically sensitive area, or used as a migratory corridor then a Comprehensive Conservation Plan along with the appropriate budgetary provision should be prepared and submitted with EIA-EMP Report; and comments/observation from the CWLW of the State Govt. should also be obtained and furnished.
- (ix) Details of mineral reserves, geological status of the study area and the seams to be worked, ultimate working depth and progressive stage-wise working scheme until the end of mine life should be provided on the basis of the approved rated capacity and calendar plans of production from the approved Mining Plan. Geological maps and sections should be included. The Progressive mine development and Conceptual Final Mine Closure Plan should also be shown in figures. Details of mine plan and mine closure plan approval of Competent Authority should be furnished for green field and expansion projects.
- (x) Details of mining methods, technology, equipment to be used, etc., rationale for selection of specified technology and equipment proposed to be used vis-à-vis the potential impacts should be provided.

- (xi) Impact of mining on hydrology, modification of natural drainage, diversion and channeling of the existing rivers/water courses flowing through the ML and adjoining the lease/project and the impact on the existing users and impacts of mining operations thereon.
- (xii) One-season (other than monsoon) primary baseline data on environmental quality - air (PM₁₀, PM_{2.5}, SO_x, NO_x and heavy metals such as Hg, Pb, Cr, As, etc), noise, water (surface and groundwater), soil - along with one-season met data coinciding with the same season for AAQ collection period should be provided.
- (xiii) Map (1: 50, 000 scale) of the study area (core and buffer zone) showing the location of various sampling stations superimposed with location of habitats, other industries/mines, polluting sources, should be provided. The number and location of the sampling stations in both core and buffer zones should be selected on the basis of size of lease/project area, the proposed impacts in the downwind (air)/downstream (surface water)/groundwater regime (based on flow). One station should be in the upwind/upstream/non-impact/non-polluting area as a control station. The monitoring should be as per CPCB guidelines and parameters for water testing for both ground water and surface water as per ISI standards and CPCB classification wherever applicable. Observed values should be provided along with the specified standards.
- (xiv) Impact of mining and water abstraction from the mine on the hydrogeology and groundwater regime within the core zone and 10 km buffer zone including long-term monitoring measures should be provided. Details of rainwater harvesting and measures for recharge of groundwater should be reflected in case there is a declining trend of groundwater availability and/or if the area falls within dark/grey zone.
- (xv) Study on subsidence including modeling for prediction, mitigation/prevention of subsidence, continuous monitoring measures, and safety issues should be carried out.
- (xvi) Detailed water balance should be provided. The breakup of water requirement as per different activities in the mining operations, including use of water for sand stowing should be given separately. Source of water for use in mine, sanction of the Competent Authority in the State Govt. and impacts vis-à-vis the competing users should be provided.
- (xvii) Impact of choice of mining method, technology, selected use of machinery and impact on air quality, mineral transportation, coal handling & storage/stockyard, etc, Impact of blasting, noise and vibrations should be provided.
- (xviii) Impacts of mineral transportation within the mining area and outside the lease/project along with flow-chart indicating the specific areas generating fugitive emissions should be provided. Impacts of transportation, handling, transfer of mineral and waste on air quality, generation of effluents from workshop etc, management plan for maintenance of HEMM and other machinery/equipment should be given. Details of various facilities such as rest areas and canteen for workers and effluents/pollution load emanating from these activities should also be provided.
- (xix) Effort be made to reduce/eliminate road transport of coal inside and outside mine and for mechanized loading of coal through CHP/ Silo into wagons and trucks/tippers.
- (xx) Details of various facilities to be provided to the workers in terms of parking, rest areas and canteen, and effluents/pollution load resulting from these activities should also be given.
- (xxi) The number and efficiency of mobile/static water sprinkling system along the main mineral transportation road inside the mine, approach roads to the mine/stockyard/siding,

- and also the frequency of their use in impacting air quality should be provided.
- (xxii) Impacts of CHP, if any on air and water quality should be given. A flow chart showing water balance along with the details of zero discharge should be provided.
 - (xxiii) Conceptual Final Mine Closure Plan and post mining land use and restoration of land/habitat to the pre-mining status should be provided. A Plan for the ecological restoration of the mined out area and post mining land use should be prepared with detailed cost provisions. Impact and management of wastes and issues of re-handling (wherever applicable) and backfilling and progressive mine closure and reclamation should be furnished.
 - (xxiv) Greenbelt development should be undertaken particularly around the transport route and CHP. Baseline data on the health of the population in the impact zone and measures for occupational health and safety of the personnel and manpower for the mine should be submitted.
 - (xxv) Cost of EMP (capital and recurring) should be included in the project cost and for progressive and final mine closure plan.
 - (xxvi) Details of R&R. Detailed project specific R&R Plan with data on the existing socio-economic status of the population (including tribals, SC/ST, BPL families) found in the study area and broad plan for resettlement of the displaced population, site for the resettlement colony, alternate livelihood concerns/employment for the displaced people, civic and housing amenities being offered, etc and costs along with the schedule of the implementation of the R&R Plan should be given.
 - (xxvii) CSR Plan along with details of villages and specific budgetary provisions (capital and recurring) for specific activities over the life of the project should be given.
 - (xxviii) Corporate Environment Responsibility:
 - a) The Company must have a well laid down Environment Policy approved by the Board of Directors.
 - b) The Environment Policy must prescribe for standard operating process/procedures to bring into focus any infringements/deviation/violation of the environmental or forest norms/conditions.
 - c) The hierarchical system or Administrative Order of the company to deal with environmental issues and for ensuring compliance with the environmental clearance conditions must be furnished.
 - d) To have proper checks and balances, the company should have a well laid down system of reporting of non-compliances/violations of environmental norms to the Board of Directors of the company and/or shareholders or stakeholders at large.
 - (xxix) Details on Public Hearing should cover the information relating to notices issued in the newspaper, proceedings/minutes of Public Hearing, the points raised by the general public and commitments made by the proponent and the action proposed with budgets in suitable time frame. These details should be presented in a tabular form. If the Public Hearing is in the regional language, an authenticated English Translation of the same should be provided.
 - (xxx) In built mechanism of self-monitoring of compliance of environmental regulations should be indicated.
 - (xxxi) Status of any litigations/ court cases filed/pending on the project should be provided.

- (xxxii) Submission of sample test analysis of Characteristics of coal: This should include details on grade of coal and other characteristics such as ash content, S and heavy metals including levels of Hg, As, Pb, Cr etc.
- (xxxiii) Copy of clearances/approvals such as Forestry clearances, Mining Plan Approval, mine closer plan approval. NOC from Flood and Irrigation Dept. (if req.), etc. wherever applicable.

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

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

ANNEXURE-VII

GENERIC TORs FOR AN OPENCAST -CUM UNDERGROUND COAL MINE PROJECT

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

LIST OF PARTICIPANTS OF EAC (COAL) IN 28th MEETING OF HELD DURING 1st April, 2022 THROUGH VIDEO CONFERENCING

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