

MINUTES OF 30th MEETING OF THE EXPERT APPRAISAL COMMITTEE FOR ENVIRONMENT APPRAISAL OF COAL MINING PROJECTS HELD ON 20th May, 2022 THROUGH VIDEO CONFERENCE.

Confirmation of the Minutes of 29th Meeting of the EAC (Coal) held during 25 -26 April, 2022:
The minutes of the 29th meeting of the EAC held during 25 -26 April, 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 29th meeting of the Expert Appraisal Committee (EAC) for coal mining projects was held on, 25th – 26th 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. 30.1

Giddi Opencast Project of production capacity 1 MTPA (Peak) in an area of 187.98 ha of M/s Central Coalfields Limited located at south Karanpura Coalfield in Mandu Development Block of District Hazaribagh (Jharkhand) - For Environmental Clearance (Under Violation category) –reg.

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

30.1.1 The proposal is for Environment Clearance of Giddi Opencast Project of production capacity 1 MTPA (Peak) in an area of 187.98 ha of M/s Central Coalfields Limited located at south Karanpura Coalfield in Mandu Development Block of District Hazaribagh (Jharkhand).

30.1.2 The revised details of the proposal, as ascertained from the documents are given as under:

- The project has 1 existing external OB dumps in an area of 18.87 ha and average height of 45 meter. However, no further dumping is proposed in the external OB dump.
- 5.61 Mcum overburden will be generated from the project, which will be backfilled in the Old waterlogged quarry in an area of 15.13 Ha within the project area.
- Reclamation Plan in an area of 145.73 ha, comprising of 29.18 ha of external dump, 15.13 ha of internal dump, 87.38 Ha in vacant land and 14.04 ha of green belt.
- Wildlife conservation plan for schedule – I species has been submitted to DFO Ramgarh vide letter no: PO GDA/ Survey/2022/44 Dated: 13.04.2022.
- Consent to Operate for the existing capacity was obtained from the Jharkhand State PCB on 30.07.2021 and was valid upto 31.03.2022. The application for renewal of CTO has been submitted to Jharkhand State Pollution Control Board (JSPCB).

- Request for undertaking credible action has been submitted to Member Secretary, Jharkhand State Pollution Control Board which is under process.
- Total cost of the project is Rs. 102.98 Crores. Cost of production is Rs. 2,964/Tonne. CSR cost is the fund for the CSR should be allocated based on 2% of the average net profit of the Company for the three immediately preceding financial years or Rs. 2.00 per Tonne of Coal Production of previous year whichever is higher. Environment Management Cost is Rs. 17.153 crores.

30.1.3 The EAC during deliberations noted the following:

- Earlier the proposal was considered by EAC in its 26th meeting held on 18th February, 2022 and was deferred for want of certain information. Now, PP has submitted the reply to observation of EAC and provided additional information on date 9th May, 2022 on PARIVESH Portal and accordingly being considered by EAC as enlisted below:

Sr. No.	Observation	Reply of Project Proponent																		
	<p>PP shall revise damage assessment and its remedial action plan for violation of over production as suggested by EAC based on following points:</p> <p>a) The total damage cost mentioned in EIA report is 17.55 crores; whereas in the presentation (ppt) the total is Rs. 3.49 Crores. The air damage cost in EIA report is Rs. 15.28 crores, for a total emission quantity of PM10 is 61,710 KG. Whereas the PPT shows a total emission quantity of (PM 10+ PM 2.5) is 11,988 KG (Approx) for 3 years only. PP to explain the difference and shall submit the revised quantity with cost</p> <p>b) Total water balance incorporating the monsoon period water shall be submitted.</p>	<p>Reply of point a to h</p> <p>a) Total Damage Cost due to violation in respect of Air, water, land and other environmental parameters have been re-assessed as per the guidelines of EAC, and Remediation plan and Natural & Community Resource Augmentation Plan (NCRAP) have been updated. The list of activities are submitted in detail in the presentation as par ADS document on PARIVESH Portal.</p> <ul style="list-style-type: none"> • As per the revised assessment, total emission quantity for PM 10+ PM 2.5 is 92,246.04 Kg for 16 years of violation <table border="1" data-bbox="797 1430 1469 1929"> <thead> <tr> <th data-bbox="797 1430 889 1598">S. No.</th> <th data-bbox="889 1430 1292 1598">Particulars</th> <th data-bbox="1292 1430 1469 1598">Estimated Damage Cost in Rs Lakhs</th> </tr> </thead> <tbody> <tr> <td data-bbox="797 1598 889 1671">1</td> <td data-bbox="889 1598 1292 1671">Land and Ecosystem Services</td> <td data-bbox="1292 1598 1469 1671">6.26</td> </tr> <tr> <td data-bbox="797 1671 889 1717">2</td> <td data-bbox="889 1671 1292 1717">Air Environment</td> <td data-bbox="1292 1671 1469 1717">417.49</td> </tr> <tr> <td data-bbox="797 1717 889 1843">3</td> <td data-bbox="889 1717 1292 1843">Water Environment Ground Water Surface Water</td> <td data-bbox="1292 1717 1469 1843">275.34 60.00</td> </tr> <tr> <td data-bbox="797 1843 889 1890">4</td> <td data-bbox="889 1843 1292 1890">Flora and Fauna</td> <td data-bbox="1292 1843 1469 1890">Nil</td> </tr> <tr> <td data-bbox="797 1890 889 1929">5</td> <td data-bbox="889 1890 1292 1929">Socio-Economics</td> <td data-bbox="1292 1890 1469 1929">Nil</td> </tr> </tbody> </table>	S. No.	Particulars	Estimated Damage Cost in Rs Lakhs	1	Land and Ecosystem Services	6.26	2	Air Environment	417.49	3	Water Environment Ground Water Surface Water	275.34 60.00	4	Flora and Fauna	Nil	5	Socio-Economics	Nil
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	<p>c) Cost saved in EMP for 16 years and 3% of it shall be considered in CRAP</p> <p>d) Net profit accrual shall be revised with certification from finance department and 3% of same shall be added to CRAP</p> <p>e) Net profit accrual shall be revised besides revising the amount to be allocated to CRAP.</p> <p>f) The damage assessment cost of surface water must also be included as the impact on river as streams cannot be neglected.</p> <p>g) Damage cost for GW abstraction considering the above factor shall be revised</p> <p>h) The activities enumerated under Remediation, NRAP and CRAP shall be revised based on the need based survey and further shall be specific, monitorable besides revising the target period for two years.</p>	<table border="1"> <tr> <td data-bbox="792 151 885 237"></td> <td data-bbox="885 151 1292 237">Grand Total in Rs. Lakhs</td> <td data-bbox="1292 151 1461 237">759.09</td> </tr> </table>		Grand Total in Rs. Lakhs	759.09									
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2	PP shall clarify the area of forest clearance for land involved in the project with certified map of project area from Forest Department	<p>b) Water balance for Monsoon and non-Monsoon season has been assessed and submitted. b) Accordingly, the environmental compensation of ground water extracted during violation has been</p> <table border="1"> <thead> <tr> <th data-bbox="792 447 885 575">S. No.</th> <th data-bbox="885 447 1274 575">Description</th> <th data-bbox="1274 447 1461 575">Revised Estimated cost (Rs.)</th> </tr> </thead> <tbody> <tr> <td data-bbox="792 575 885 621">1</td> <td data-bbox="885 575 1274 621">Remediation Plan</td> <td data-bbox="1274 575 1461 621">7,59,80,000</td> </tr> <tr> <td data-bbox="792 621 885 730">2</td> <td data-bbox="885 621 1274 730">Natural Resources Augmentation Plan</td> <td data-bbox="1274 621 1461 730">2,00,000</td> </tr> <tr> <td data-bbox="792 730 885 840">3</td> <td data-bbox="885 730 1274 840">Community Resources Augmentation Plan</td> <td data-bbox="1274 730 1461 840">90,00,000</td> </tr> </tbody> </table> <p>calculated as Rs. 2.75 Crore.</p> <ul style="list-style-type: none"> The certified copy of Economic benefit accrual is provided by PP. <p>c) Cost saved in EMP for 16 years has been worked out and 3% of this cost has been considered in CRAP fund</p> <p>d) Net profit accrual is revised and the certified report of Area Finance Manager is submitted</p> <p>e) The certified report of Area Finance Manager is submitted</p> <p>f) The damage assessment cost of surface water is calculated and included in damage remediation plan & natural & community resource augmentation plan.</p> <p>g) The damage cost for Ground water abstraction has been revised and included in damage remediation plan & natural & community resource augmentation plan.</p> <p>a) Total forest land involved in the proposed project Boundary of Giddi-A OCP (1.00 MTPA) is 73.94 Ha.</p> <p>b) 73.94 Ha. forest land is a part of 232.42 Ha.</p>	S. No.	Description	Revised Estimated cost (Rs.)	1	Remediation Plan	7,59,80,000	2	Natural Resources Augmentation Plan	2,00,000	3	Community Resources Augmentation Plan	90,00,000
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		<p>forest land, for which the stage-I has been obtained vide F.No 8-73/2003-FC Dt. 08.06.2004.</p> <p>c) The revenue map showing the total forest land (232.42 Ha) for which Stage-I FC obtained, and forest land falling within the project area (73.94 Ha.) is submitted.</p> <p>d) A letter of request along with the plan has been submitted to DFO, Ramgarh for certification</p>
3	PP shall submit Status of Credible action taken by Project Proponent by State Government.	Jharkhand State Pollution Control Board (JSPCB) has been requested vide letter no: HOD (Env.)/2021/1152 Dated: 29.11.2021 for taking necessary action in this regard.
4	300 KLD of domestic water usage shows the consumption by colony, provide the details pertaining to sewage treatment, rain water harvesting and solid waste management as per SWM 2016 rules	<p>a) The proposal for construction of Sewage Treatment Plan (STP) for colony has been included in the EMP and the proposal for carrying out the work has been initiated vide letter no: SO(C)(A)/STP/2021- 22/572 Dt. 28.02.2022.</p> <p>b) Details of Existing and proposed Rain water conservation measures have been submitted. The PP had proposed to construct Roof top Rainwater Harvesting at</p> <ul style="list-style-type: none"> • E&M office & workshop @ 15 lakhs by Sep, 22 • 4 no. of schools in nearby villages @ 40 Lakhs by May 23 <p>c) The solid waste generated in the colony of Giddi A OCP is being collected by third party & disposed as per the MSW Rules, 2016</p>
5	PP shall revise Mine plan including Mine Closure Plan by considering OB dumping in adjacent mine void (currently filled with water) and further no increase in OB dump towards Damodar River shall be included in it. Current distance from HFL of river to OB dump should be submitted.	<p>a) The dump plan has been revised to accommodate OB in existing void and away from Damodar River.</p> <p>b) The dump plan & post-closure plan has been revised.</p> <p>c) The distance of HFL of Damodar River to existing OB dump is approximately 200 meter.</p>
6	PP shall submit action plan for plantation along peripheral boundary with allocated budget and timeline	<p>a) About 10.40 Ha. of plantation has been carried out under greenbelt/safety zone of Giddi A OCP.</p> <p>b) Further, it has been proposed to carry out peripheral plantation over an area of 6.20 Ha. in Monsoon 2022</p>

7	PP shall provide proof of installation of CAAQMS with picture and online data linked with CPCB and SPCB and further data of piezometer should be shown.	<p>a) Continuous Ambient Air Quality Monitoring Station has been installed in the buffer zone of Giddi A OCP.</p> <p>b) A comprehensive hydrogeological study for Giddi A OCP has been carried out by CMPDI and the report was submitted on 29.03.2022. As per the report, two numbers of piezometer has been proposed in the core zone of Giddi A OCP.</p> <p>c) In addition, monitoring of ground water through monitoring wells is being undertaken both in pre-monsoon & post-monsoon period.</p>
8	PP shall provide the receiving of Wildlife Conservation Plan for Schedule-I species and breakup of the proposed activities with budgetary provision submitted to the DFO.	Wildlife conservation Plan has been prepared for Schedule-I species with a capital cost of Rs. 80 Lakhs and revenue cost of Rs. 30 Lakhs. The conservation plan has been submitted to DFO for approval vide letter no: PO GDA/ Survey/2022/44 Dated: 13.04.22
9	PP shall update mine closure activity already conducted and to be pursued for final mine closure as life of mine is 5 years. Also, Mine closure status of underground mining activity of this mine	<p>a) The mine closure plan of Giddi A has been prepared for a total mine closure cost of 1907.16 lakhs and approved by CCL Board in its 507th meeting item no 504.4(14) dt. 23.09.2021.</p> <p>b) Underground operations within Giddi A lease area were carried out till 1985-86 and operations were suspended since then.</p> <p>c) The mine closure activities of UGP like sealing and fencing of incline mouth, subsidence management etc. have been carried out</p>
10	Plan of action and allocated fund for maintenance and services to provide drinking water pipeline with fittings to the nearby villages with installed RO for 10 years.	RO systems at 12 locations in adjacent villages viz. Giddi ka, Giddi Kha, Giddi Ga and Kanki Panchayats has been proposed at a cost of Rs 3 Crores under NCRAP
11	PP shall recheck and re-monitor the water quality of surface water i.e nallahs/streams and Damodar River in vicinity of the project area	Surface water quality data has been re-monitored at two locations i.e., U/S and D/S of River Damodar in March 2022 and found that all values are well within the range.
12	Protection measures for the streams/nallahs from the lease area to Damodar river. The PP must take inputs by other consultant (third party) regarding the river	The details of conservation measures taken up for the protection of streams/nala is submitted b) For carrying out a detailed river conservation plan of Damodar River, third party consultants are being identified. c) Preparation of River conservation

	conservation plan of Damodar River.	plan and its vetting by third party will take about six months' time. The mine is also not producing coal since 01.04.2022, as such additional time of six months may be provided for the study
13	Time bound action plan with budgetary provision for commitment made on the issues raised during public hearing in both district	Action plan for compliance of PH issues has been prepared for an estimated value of Rs. 2.07 Crore (i.e. 2% of Project cost 102.98 Cr)
14	PP shall submit the consent letter from the panchayat for the stretch required by the villagers on actual need base survey and to provide pucca road to them with proper budgetary implementation and time bound action of 2 years was to be followed	The consent letter from the panchayat for the stretch is submitted by PP.
15	PP to submit the revised EMP cost and the breakup of activity proposed in CER..	EMP Cost, cost for compliance of issues raised in PH, Damage Remediation Cost and Natural and Community Resource Augmentation Plan have been revised as per the EAC Guidelines.

30.1.4 *The EAC, after deliberations found that the proposal is under violation category. Earlier, observations have partially been complied by PP regarding revising mine plan and mine closure plan for using old mine void and avoiding OB dumping at existing location near Damodar River, though PP has committed to revise the dump plan. Also, EAC opined that there is lack of clarity on forest land involved in the project since PP has submitted that Stage I FC was granted for about 232.42 ha but, only 73.94 ha is only involved in the said project area. No separation of forest land has been exercised. Separately, PP had sent a letter of request along with the plan to DFO, Ramgarh for certification of forest area so EAC asked the PP to submit the clarification for confirmation of land demarcation and also give undertaking that no mining activity will be carried out in the forest area until Stage –II clearance is obtained.*

PP, however claimed that online monitoring system has been installed but did not provide the proof of its online data linked with CPCB and SPCB. Also it was observed that PP is proposing two piezometers now which means PP has not installed piezometer till and data of only wells has been shown.

PP has submitted the revised Damage Remediation Cost and Natural and Community Resource Augmentation Plan and EAC took considerable/agreed to the said overall cost of about Rs. 759.09 Lakhs with three years break up for implementation. EMP cost saved during period of Violation is estimated to be Rs. 16.89 lakhs, Net profit accrued due to violation is Rs. 51.96 lakhs. Total Fund for Natural & Community Resource Augmentation Plan (NCRAP) is Rs. 9200000/- (92 Lakhs). Also, Action Plan for Compliance of Issues Raised in PH has been raised to Rs. 207.07 lakhs.

It was also observed that Credible action for the violation of E(P) Act, 1986 has also not been taken by State Government though PP has communicated to State Government. It was desired that State Government may be asked by again by PP to take necessary action.

As per Hon'ble NGT order dated July 10, 2019 in the matter of Original Application No. 1038/2018 wherein District Hazaribagh (CEPI Score is 64.20) comes under Severely Polluted Areas and the said matter has been stayed by Hon'ble Supreme Court for issuance of EC by formulation environmental mechanism for additional specific conditions in such areas. Accordingly, EAC desired that since the project area comes in Hazaribagh, the grant of Environment Clearance may not be considered till CEPI scores decreases.

Further, as informed by PP that the solid waste generated in the colony of Giddi A OCP is being collected by third party & disposed as per the MSW Rules, 2016. So EAC enquired about the amount of solid waste generated it was above 100 kg /day so EAC mandatorily ask PP to opt Integrated solid waste management system as per the Solid Waste Management & Handling Rules, 2016 and its subsequent amendment.

In view of above, PP shall submit the following details for further compliance: -

- (i) PP to submit clarification of forest land in project area and certification from forest department with map showing the area.*
- (ii) PP shall submit legal undertaking stating that no mining activity will be carried out in the forest area until Stage –II clearance is obtained*
- (iii) PP shall submit additional details of action plan to be complied as framed by SPCB for severally polluted area or get it certified that instant project lies outside of SPA boundary based on vetting of Member Secretary-SPCB.*
- (iv) Proof of Credible action taken by State Government shall be submitted.*
- (v) PP shall modify the mine plan and mine closure plan as desired by EAC regarding OB dump to be disposal in nearby mine void.*
- (vi) Protection measures for the streams/nallahs from the lease area to Damodar river. The PP must take inputs by other consultant (third party) regarding the river conservation plan of Damodar River all along the mine lease boundary.*
- (vii) PP shall submit plan for operation of integrated solid waste management from the Giddi A OCP colony.*
- (viii) PP shall submit the proof of its online data linked with CPCB and SPCB of CAAQMS*
- (ix) PP shall plan with timeline to install piezometer for monitoring of ground water.*

*In view of above, the project was **deferred** for submission of observation.*

Agenda No. 30.2

Kathara Opencast Coal Mine of 1.9 MTPA (Peak) in a mine lease area of 773.23 Ha M/s Central Coalfields Limited, located in Block Bermo, District Bokaro (Jharkhand) - For Environmental Clearance (under violation Category) – reg.

[Online Proposal No. IA/JH/CMIN/11566/2008; File No. J-11015/482/2008- IA-II(M)]

30.2.1 The proposal is for Environment Clearance of Kathara Opencast Coal Mine of 1.9 MTPA (Peak) in a mine lease area of 773.23 Ha by M/s Central Coalfields Limited, located in Block Bermo, District Bokaro (Jharkhand).

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

- Employment generation, project is source to direct employment of about 750 persons.

Post Mine Land uses:

SN	Land Use	Plantation	Water Body	Public Use	Un-disturbed	Total (in Ha)
1.	Quarry	160.90	97.56	0	0	258.46
2.	External OB Dump	109.53	0	0	0	109.53
3.	Reclaimed OB Dump and Embankment	74.09	0	0	0	74.09
4.	Infrastructure (W/S, S/S, Office, Road etc.)	0	0	64.54	0	64.54
5.	Colony & Settlement	0	0	122.87	0	122.87
6.	Safety Zone/Green belt	45	0	0	0	45
7.	Vacant Land	65.6	0	33.14	0	98.74
Total Area in Ha		455.12	97.56	220.55	0	773.23

- 4 seams with thickness ranging from 1 meter to 34 meter are workable. Grade of coal is Washery Grade- III, stripping ratio 3.45, while gradient is 12degree -25 degree.
- Reclamation Plan in an area of 455.12 Ha comprising of 160.90 Ha of internal dump, 109.53 Ha of external dump, 45 Ha of green belt and safety zone, 65.60 Ha in vacant land and an area of 74.09 ha, included for Reclaimed OB Dump and Embankment has also been proposed for reclamation.
- The ground water level has been reported to be varying between 2.40 m (Pre-monsoon) to 12.60 m (Pre-monsoon). Total water requirement for the project is 4900 cum/day including water demand of nearby Kathara Washery & colony.
- Application for obtaining the NOC of the Central Ground Water Authority has been submitted vide application no: 21-4/837/JH/MIN/2022 dated 27.03.2022.
- Public hearing for the project of 1.90 capacity in an area of 773.23 Ha was conducted on 31.08.2021 at Officers Club, Kathara, Dist: Bokaro under the Chairmanship of 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 6.43 Crores (i.e. more than 2% of Rs. 266.63 Crores = 5.3 Crore) towards compliance of the issues raised during the public consultation of Kathara OCP.

- Total cost of the project is Rs. 266.63 Crores. Cost of production is Rs. 3,550/Tonne in FY 2021-22. 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. 38.33 Crore.

30.2.3 The EAC during deliberations noted the following:

- Earlier, the proposal was considered by EAC in its 25th meeting held on 18-20 January, 2022, 27A meeting held on 3rd March, 2022 and in its 29th EAC held during 26th April, 2022 and it was deferred for want of information. Now, PP has submitted the compliance of observation of EAC and provided additional information on date 13th May, 2022 on PARIVESH Portal which are enlisted below:

S. No.	Observation of EAC	Reply by PP						
1	PP shall submit proof of Credible action take on project proponent by State Government.	1. Jharkhand State Pollution Control Board(JSPCB) has been requested vide letter no: HOD (Env.)/2021/1097, Dated: 15.11.2021 for taking necessary action in this regard. 2. Member Secretary, JSPCB has directed Regional Officer, Dhanbad to take necessary action						
2.	PP shall furnish the certified compliance report from the IRO, MoEF& CC, Ranchi. If noncompliance exists in report, PP to come up with time bound action plan	1. Site inspection of Kathara OCP (1.90 MTY) was held on 25.04.2022 by Integrated Regional Office Ranchi. 2. Certified compliance report along with action taken report is provided.						
3.	PP shall revise the allocated budget for remediation plan by including penalty money as per SOP of the Ministry's OM and thus submit the revised list of activities towards Remediation Plan and Natural Conservation and Community Augmentation plan.	Revised budgetary provisions including penalty money as per SOP and revised list of activities is enlisted <table border="1" data-bbox="841 1633 1469 1925"> <thead> <tr> <th>Particular</th> <th>Penalty Amount (in Rs Crore)</th> <th>Relevant penalty provisions for Violation cases</th> </tr> </thead> <tbody> <tr> <td>Capital Cost of</td> <td>1 % of 266.63</td> <td>12. Penalty provisions for</td> </tr> </tbody> </table>	Particular	Penalty Amount (in Rs Crore)	Relevant penalty provisions for Violation cases	Capital Cost of	1 % of 266.63	12. Penalty provisions for
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		the project: 266.63 Crores	Crores = 2.66 Crore	Violation cases and applications: a. For new projects: (ii) Where operations have commenced without EC: 1 % of the total project cost incurred up to the date of filing of application along with EIA/EMP report plus 0.25% of the total turnover during the period of violation.
		Total Turnover of the project: 583.40 Crores	0.25 % of 583.40 Crores = 1.45 Crore	
		Total Amount	4.11 Crore	
		Total Penalty Amount	2.055 Crore (50 % of 4.11 Crore)	12.2 The percentage rates shall be halved if the project proponent suo-moto reports such violations without coming to the knowledge of the Government either on inquiry or

				complaint.																						
4	PP shall submit specific activities to be conducted village wise (if proposed in villages) for Remediation Plan and Natural and Community Resource Augmentation Plan (NCRAP) for the area covering Kathara OCP and undertaking shall be submitted that these activities are not overlapping with other activities of other coal mines of M/s CCL	Specific activities in Remediation Plan and Natural and Community Resource Augmentation Plan (NCRAP) has been incorporated and is enlisted and shown during presentation. Cumulative Damage Remediation Plan.	<table border="1"> <thead> <tr> <th>SN</th> <th>Particulars</th> <th>Estimated Damage Cost in Rs. Lakhs</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Land and Ecosystem Services</td> <td>3.94</td> </tr> <tr> <td>2</td> <td>Air Environment</td> <td>1160.74</td> </tr> <tr> <td rowspan="3">3</td> <td>Water Environment</td> <td></td> </tr> <tr> <td>Ground Water</td> <td>269.45</td> </tr> <tr> <td>Surface Water</td> <td>90.00</td> </tr> <tr> <td>4</td> <td>Penalty provision as per SOP of the Ministry's OM</td> <td>206</td> </tr> <tr> <td colspan="2">Grand Total in Rs. Lakhs</td> <td>1730.13</td> </tr> </tbody> </table> <p>Total Proposed Budget under NRAP (in Rs. Lakh) – Rs. 28,00,000/- Total Proposed Budget under CRAP (in Rs. Lakh) – Rs. 57,00,000/- Total cost of Natural & Community Resource Augmentation Measures – Rs. 85,00,000/-</p> <p>2. Undertaking that these activities are not overlapping with other activities of other coal mines of M/s CCL is submitted.</p>		SN	Particulars	Estimated Damage Cost in Rs. Lakhs	1	Land and Ecosystem Services	3.94	2	Air Environment	1160.74	3	Water Environment		Ground Water	269.45	Surface Water	90.00	4	Penalty provision as per SOP of the Ministry's OM	206	Grand Total in Rs. Lakhs		1730.13
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4	Penalty provision as per SOP of the Ministry's OM	206																								
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5	Permission of extraction of ground water from Central Ground Water Authority	Application of Kathara OCP is under process vide 21-4/837/JH/MIN/2022. Copy of Application is provided. The application has been approved by Regional Office of CGWB, Patna and demand from CGWA is awaited. NOC likely to be issued by 15 June 2022																								

6	The action plan of construction of picnic spots, approach road & pathways, chath ghat, shed, river side plantation etc should have consent from the gram panchayat and the state on account of its feasibility for social cause in terms of its future maintenance or Otherwise propose for construction of STP to treat the sewage falling from nearby area within 25 km u/s or d/s of project site.	1.Consent from Gram Sabha is provided 2. Undertaking from project proponent
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30.2.4 *The EAC, after deliberation observed that the instant proposal is considered for EC as per Standard Operating Procedure (SOP) issued by Ministry through OM dated 28th January 2022 for Identification and handling of violation cases under EIA Notification, 2006 in compliance of order of the Hon'ble NGT in Appeal No. 34/2020 (WZ) titled Tanaji B. Gambhire vs Chief Secretary, Government of Maharashtra. Project Proponent have provided the revised damage assessment cost and accordingly proposed the cost of remediation plan, Natural Resource Augmentation Plan and Community Resource Augmentation Plan. Certified compliance report of earlier EC submitted by Ministry's IRO dated 4th May, 2022 has various observation regarding non-compliances and partial compliance. It was desired that PP must work towards compliance of these conditions for better environment management of the area.*

PP requested the EAC that the percentage rates shall be halved if the project proponent suo-moto reports such violations without coming to the knowledge of the Government either on inquiry or complaint i.e. considering Rs. 206 lakhs instead of Rs. 4.11 Crores. In this regard, it is noted that violation of this project was identified when PP approached for extension of EC after 2 years of expiry of EC and then EAC reported the violation and desired Ministry to take necessary action; hence suo-moto declaration is not applicable and penalty amount shall be estimated for Rs. 4.11 crores shall be considered. EAC opined that penalty provision as per SOP has been considered and included in damage remediation plan and accordingly PP has proposed activities to spent the penalty amount. However, Ministry may take a view regarding penalty since no clear guidelines for submitting the penalty amount to specified agency.

Based on documents and commitments submitted by PP, EAC recommended the proposal under violation category to EC for Kathara Opencast Coal Mine of 1.9 MTPA (Peak) in a mine lease area of 773.23 Ha M/s Central Coalfields Limited, located in Block Bermo, District Bokaro (Jharkhand), under EIA Notification, 2006 and subsequent amendments/circulars thereto subject to the compliance of the following terms & conditions / specific conditions for environmental safeguards:

- (i) EAC recommended an amount of Rs.17.42 Crores towards Remediation plan and Rs 85.0 Lakhs towards Natural and Community Resource Augmentation plan, which should be spent within a span of 3 years. The details of Remediation plan, Natural resource Augmentation plan and Community Resource Augmentation plan with budgetary provision are mention above*

A. Remediation plan along with the action plan with a budget of Rs.17.42 Crores:

Remediation plan & budgetary provisions				Action Plan		
S N		Activity Proposed	Total	Year 01	Year 02	Year 03
1	Water Environme nt	Protection & Development of Damodar River bank:	3,50,00,0 00	60,00, 000	1,30,0 0,000	1,60,0 0,000
		Development & Beautification of Damodar River Banks along with construction of picnic spots, approach road & pathways, chath ghat, shed, river side plantation etc at Khetko, Asnapani,near CPP colony and Jhirki Basti.				
2		Additional Water Sampling and analysis of Ground water and Surface water quarterly at 6 locations (4 Ground water at Bandh Basti, Jhirki Basti, Asnapani Tola and Kathara Basti and 2 surface water locations- u/s and d/s of Damodar River)	5,00,000	1,60,0 00	1,70,0 00	1,70,0 00
Total Water Environment			3,55,00,0 00	51,60, 000	1,51,7 0,000	1,01,7 0,000
1	Land & Ecology	Development of ecological park (creation and maintenance) in 19.10 ha at Kathara Area	9,20,00,0 00	1,00,0 0,000	4,10,0 0,000	4,10,0 0,000
2		Distribution of fruit bearing Saplings like Amla, Guava, Mango, Lichi etc. to nearby villagers.	1,50,000	0	1,50,0 00	0
3		Providing colour coded bins (30 L) in nearby schools & hospitals in buffer zone.	4,00,000	0	4,00,0 00	0
4		Setting up of Vermi composting plant for treating Bio-degradable waste generated from nearby habitation	45,00,00 0	0	45,00, 000	0
5		Awareness programme for conservation of flora-fauna & e-waste disposal	4,50,000	1,50,0 00	1,50,0 00	1,50,0 00
Total Ecological Environment			9,75,00,0 00	1,01,5 0,000	4,62,0 0,000	4,11,5 0,000

1	Air & Noise Environment	Periodic Health Camps to monitor the respiratory and E&T health status in villages Jhirki Basti, Bandh Basti and Asnapani Tola	1,15,00,000	35,00,000	40,00,000	40,00,000
2		Additional avenue Plantation (creation and maintenance) along with gabion protection on roads from filter plant to Asnapani More via khetko (Total length 1.50 kms)	25,00,000	5,00,000	10,00,000	10,00,000
3		Repair and periodic maintenance of public roads near Bandh Basti, Asnapani tola and Kathara Basti.	50,00,000	-	25,00,000	25,00,000
Total Air Environment			1,90,00,000	40,00,000	75,00,000	75,00,000
1	Socio-Economic	Skill development training program including Motor Driving, Sewing, Nursing & skill development programmed by Central Institute of Plastics Engineering & Technology (CIPET)	30,00,000	10,00,000	10,00,000	10,00,000
2		Fogging machine in nearby villages of command area of CCL	9,00,000	3,00,000	3,00,000	3,00,000
3		Organizing Training Sessions for sports and conducting Gramin Football League	30,00,000	10,00,000	10,00,000	10,00,000
4		Additional awareness programs on Environmental protection	3,00,000	1,00,000	1,00,000	1,00,000
5		Development of Community centre at Kathara Area	1,50,00,000	50,00,000	50,00,000	50,00,000
Total Socio-Economic Environment			2,22,00,000	74,00,000	74,00,000	74,00,000
Total Fund for remediation measures			17,42,00,000	2,77,10,000	7,42,70,000	7,22,20,000

B. Natural & Community Resource Augmentation Plan along with action plan with a budget of Rs. 85.00 Lakhs

SN	Particular	Activity Proposed	Total	Action Plan
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				Year 01	Year 02	Year 03
1	Natural Resource Augmentation	Total 05 nos. of Rainwater Harvesting cum Groundwater recharge structures to be installed on rooftop of public buildings in Bandh Basti, Jhirki Basti and Kathara Basti	18,00,000	6,00,000	6,00,000	6,00,000
2		Distribution of Solar Lantern in command areas of CCL (500 numbers)	10,00,000	--	10,00,000	-
Total Proposed Budget under NRAP (in Rs. Lakh)			28,00,000	6,00,000	16,00,000	6,00,000
1	Community Resource Augmentation	Procurement, operation & maintenance of High Speed Fully Automatic Sanitary Pad Making Machine for nearby villages in command area of Kathara	15,00,000	-	10,00,000	5,00,000
2		Battery Operated Handicapped Tricycle distribution to Divyangs of command area of Kathara (20 Numbers)	10,00,000	-	10,00,000	-
3		Distribution of Bench, Desk, Table, Chair, Books and Almirah etc. to various schools of Kathara Area	15,00,000	-	7,50,000	7,50,000
4		Special vaccination drives for children vaccines, Covid vaccine etc. in nearby villages in collaboration with state govt.	5,00,000	1,00,000	2,00,000	2,00,000
5		Providing smart classes at DAV Schools (Swang & Kathara)	12,00,000	4,00,000	4,00,000	4,00,000
Total Proposed Budget under CRAP (in Rs. Lakh)			57,00,000	5,00,000	33,50,000	18,50,000
Total cost of Natural & Community Resource Augmentation Measures			85,00,000	11,00,000	49,50,000	24,50,000

C. Penalty estimated as recommendation of EAC: Rs. 4.11 Crore

Summary

Sl. No.	Description	Estimated cost (Rs. In Lakhs)
1	Remediation Plan	1742.00
2	Natural Resources Augmentation Plan	28.00
3	Community Resources Augmentation Plan	57.00
	Sub-Total	1827.00
4	Fund provision as per OM dated 30/09/2020 based on Public Hearing requirements (Min. 1% of existing capital cost)	206.00
	Sub total	2033.00
	Penalty	411.00
	Total	2444.0

- (ii) *Total budgetary provision with respect to Remediation plan and Natural & Community Resource Augmentation plan is Rs. 2033 lakhs. Therefore, project proponent shall be required to submit a bank guarantee of an amount of Rs. 2033/- Lakhs towards Remediation plan and Natural and Community Resource Augmentation plan with the SPCB prior to the grant of EC. Apart from this PP to submit the penalty amount of Rs. 4.11 Crore as per decision taken by Ministry.*
- (iii) *Remediation plan shall be completed in within three years from date of issue of EC only. The bank guarantee will be released after successful implementation of the remediation plan and Natural and Community Resource Augmentation Plan, and after the recommendation by regional office of the Ministry, Expert Appraisal Committee and approval of the Regulatory Authority.*
- (iv) *PP shall comply all the non-compliance and partial compliance of EC dated 8th January, 2014, highlighted by IRO Ranchi vide its Certified Compliance Report dated 4th May, 2022 within certain timelines*
- (v) *Further proposal of expansion/amalgamation of mine shall only be considered only when full compliance of existing as well as this EC conditions along with compliance of Remediation plan and Natural &Community Resource Augmentation plan for amount Rs. 2033 lakhs only are accomplished.*
- (vi) *PP shall implement in-pit conveyor system with silo loading facility till railway siding within 2 years (March-2024) and No road transportation shall be allowed beyond this time.*
- (vii) *PP to submit the tree implementation plan along the road side of transportation route including mine periphery area within 2 months from date of issue of EC to IRO, MoEF&CC. A detailed report with GIS images of every 3 months subsequently be submitted in every six monthly report to justify the adequate tree plantation.*
- (viii) *PP to earmark additional Rs. 605.50 lakh to address the issues arose during public hearing,*

which should be implemented as per the timeline mentioned in ADS rely Vide letter GM/E&F/2022/249 dated 19.04.2022. Plan in this regard should be submitted within 3months to IRO, MoEF&CC.

- (ix) PP shall submit a capital cost of Rs 15 Lakhs & revenue cost of Rs. 19 Lakhs/year for the balance life of the project as proposed & allocated for implementation of Wildlife Conservation Plan prepared for Kathara Mine to Forest Department within six months of issue of this letter.*
- (x) Approval/permission of the CGWA/SGWA shall be obtained before drawing ground water for the project activities, if applicable. State Pollution Control Board (SPCB) concerned shall not issue Consent to Operate (CTO) till the project proponent obtains such permission.*
- (xi) The Environmental Clearance will not be operational till such time the Project Proponent complies with all the statutory requirements and judgment of Hon'ble Supreme Court dated the 2nd August 2017 in Writ Petition (Civil) No. 114 of 2014 in the matter of Common Cause versus Union of India and Ors.*
- (xii) State Government concerned shall ensure that mining operation shall not commence till the entire compensation levied, if any, for illegal mining paid by the Project Proponent through their respective Department of Mining & Geology in strict compliance of judgment of Hon'ble Supreme Court dated the 2nd August 2017 in Writ Petition (Civil) No.114 of 2014 in the matter of Common Cause versus Union of India and Ors.*
- (xiii) PP shall engage third party independent expert agency for monitoring/auditing of compliance of EC conditions every year.*
- (xiv) 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*
- (xv) PP shall implement additional (if already existing) 50 bed capacity hospital within in 2 years in the nearest town of project area within 10 km buffer zone.*
- (xvi) Effective dust suppression system shall be adopted at the transportation site and in the other parts of the mining lease to arrest the fugitive dust emission*
- (xvii) Project proponent shall take necessary other clearances/permissions under various Acts and Rules if any, from the respective authorities / department.*
- (xviii) PP shall install online water quality monitoring system for checking the quality of mine water and display outside main gate of colliery before discharge from its settling pond.*
- (xix) State Government/SPCB to take action against the Project Proponent under the provision of Section 19 of the E(P) Act.*
- (xx) In pursuance to the Ministry's OM dated 30.09.2020, Project Proponent shall take up the activities for community development under EMP*
- (xxi) PP shall submit the yearly status of mine closure activity to be pursued for final mine closure and furnish the detail to the respective IRO in April, 2023*
- (xxii) PP must obtain 4.5-starrating of MoC in the year 2022-23 and report shall be submitted to IRO.*
- (xxiii) Periodical health check-up shall be conducted to monitor the impact of heavy metals present in core zone & buffer zone air quality and also to prepare an action plan to reduce heavy metals concentration and also report to be submitted to concerned regional office of MoEF&CC.*
- (xxiv) PP shall take should be implemented all the activities as per the timeline mentioned in ADS rely*

Vide letter GM/E&F/2022/249 dated 19.04.2022. Plan in this regard should be submitted within 3 months to IRO, MoEF&CC.

(xxv) 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. 30.3

Bharkunda OCP for production capacity of 2.05 MTPA (1.75 MTPA for OC and 0.30 MTPA for UG) in an area of 910.16 Ha by M/s Central Coalfields Limited, located at village Balkudra, Kurse, Deoria-Bargawan and Dhundua, Tehsil Patratu, District Ramgarh (Jharkhand)- For Environmental Clearance (under violation category) –reg.

[Online Proposal No. IA/JH/CMIN/74128/2018; File No. 23-266/2018-IA.III (V)]

30.3.1 The proposal is of Environmental Clearance to Bharkunda OCP for production capacity of 2.05 MTPA (1.75 MTPA for OC and 0.30 MTPA for UG) in an area of 910.16 Ha by M/s Central Coalfields Limited, located at village Balkudra, Kurse, Deoria-Bargawan and Dhundua, Tehsil Patratu, District Ramgarh (Jharkhand).

30.3.2 The revision in details of the proposal, as ascertained from the proposal documents are given as under:

- Application for obtaining the NOC of the Central Ground Water Authority has been approved in-principle vide application no: 21-4/731/JH/MIN/2021 Dated: 27.01.2022. Payment of demand is under progress.
- Total cost of the project is Rs. 146.375 Crores. Cost of production is Rs. 2355.89/Tonne. The fund for the CSR should be allocated based on 2% of the average net profit of the Company for the three immediately preceding financial years. Capital Cost of Environmental Control Measures is Rs. 34.14 Crore. Estimated Revenue Cost of Environmental Control Measures is Rs 17.77 9 Crore.

30.3.3 The EAC during deliberations noted the following:

- Earlier, the proposal was considered by EAC in its 25th meeting held on 18-20 January, 2022 and 29th EAC held during 26th April, 2022 and it was deferred for want of information. PP has submitted the compliance of observation of EAC and provided additional information on date 13th May, 2022 which are enlisted below:

S. No.	Observation of EAC	Reply by PP																					
1	PP shall submit certification from PCCF clearly stating that forest land was broken before 25 th October, 1980	Certification from PCCF cum ED Nodal, Jharkhand stating that forest land was broken 1980 is provided vide letter no. 412 dated 18.05.2022																					
2.	PP shall submit specific activities to be conducted village wise (if proposed in villages) of Remediation Plan and Natural and Community Resource Augmentation Plan (NCRAP) for the area covering Bhurkunda OCP and undertaking shall be submitted that these activities are not overlapping with other activities of other coal mines of M/s CCL	<p>The specific activities to be conducted village wise (if proposed in villages) of Remediation Plan and Natural and Community Resource Augmentation Plan (NCRAP) for the area covering Bhurkunda Colliery is provided during presentation. Budgetary Provisions for Damage Remediation Plan</p> <table border="1"> <thead> <tr> <th>SN</th> <th>Particulars</th> <th>Estimated Damage Cost in Rs.</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Land and Ecosystem Services</td> <td>150000</td> </tr> <tr> <td>2</td> <td>Air & Noise Environment</td> <td>11500000</td> </tr> <tr> <td>3</td> <td>Water Environment</td> <td>15500000</td> </tr> <tr> <td>4</td> <td>Ecological Environment</td> <td>85200000</td> </tr> <tr> <td>5</td> <td>Socio-Economic Environment</td> <td>3200000</td> </tr> <tr> <td colspan="2">Grand Total in Rs.</td> <td>115550000</td> </tr> </tbody> </table> <p>Budgetary Provisions for Natural & Community Resource Augmentation: Rs. 7600000</p> <p>2. The undertaking vide letter dated 12.05.2022 that activities are not overlapping with other activities of other coal mines is provided</p>	SN	Particulars	Estimated Damage Cost in Rs.	1	Land and Ecosystem Services	150000	2	Air & Noise Environment	11500000	3	Water Environment	15500000	4	Ecological Environment	85200000	5	Socio-Economic Environment	3200000	Grand Total in Rs.		115550000
SN	Particulars	Estimated Damage Cost in Rs.																					
1	Land and Ecosystem Services	150000																					
2	Air & Noise Environment	11500000																					
3	Water Environment	15500000																					
4	Ecological Environment	85200000																					
5	Socio-Economic Environment	3200000																					
Grand Total in Rs.		115550000																					
3.	Permission of extraction of ground water from Central Ground Water Authority.	NOC Application vide 21-4/731/JH/MIN/2021 has been approved by Chairman (CGWA). Payment is under process. The status of application is provided																					
4	PP shall submit air pollution mitigation measures at Saunda D Colony and Bhurkunda Guest House	Existing & proposed Air pollution control measures being undertaken at Saunda D Colony and Bhurkunda Guest House is given below: a) 01 nos. of mobile water sprinklers of 28 kL capacity used for regular sprinkling of water on haul																					

		<p>roads.</p> <p>b) Till date 385.70 Ha of plantation has been carried out within the project boundary of Bhurkunda Colliery.</p> <p>c) Coal transportation road has been black topped (Around 2.50 km).</p> <p>d) Saunda siding has been provided with the fixed sprinkling system of Cost Rs. 21.21 Lakhs.</p> <p>e) Control Blasting is being practised. All drills are equipped with wet drilling arrangement.</p> <p>f) PUC Certificates for all Coal Transportation Trucks.</p> <p>g) Adequate firefighting arrangements including storage of sufficient water at all critical points.</p> <p>h) PM10 Analyser has been installed at the Saunda B Railway siding for continuous monitoring of PM10 dust.</p> <p>i) Regular water sprinkling is done around Saunda D Colony and Bhurkunda Guest House.</p> <p>j) CAAQMS is installed and commissioned in PO Office of North Urimari OCP which comes under Buffer zone of Bhurkunda Colliery.</p> <p>Proposed Air pollution control measures for Saunda D Colony and Bhurkunda Guest House:</p> <p>a) Though premises of both Saunda D Colony and Bhurkunda Guest House are afforested, additional afforestation will be done.</p> <p>b) Total of 9.6 crores has been proposed for Air pollution control measures like CAAQMS, Mobile water sprinklers, Fixed mist type sprinkling, Wind barriers, plantation on dumps in EIA/EMP report of Bhurkunda Colliery</p>
5	PP shall submit plan of development of additional railway at Saunda B Siding for transportation of coal with silo loading facility	<p>1. The mining plan/ Pre- feasibility Report of Bhurkunda Colliery (2.05 MTPA) does not have provision for CHP. Coal will be transported by tarpaulin-covered trucks to Saunda B Railway Siding.</p> <p>2. Project Report of Bhurkunda Colliery for a higher capacity of 3.5 MTPA has been prepared which is yet to be approved by company board with provision of</p>

		<p>CHP along with conveyor transport to nearby railway siding.</p> <p>3. Therefore, CHP along with conveyor transport to nearby railway siding i.e., Saunda B railway siding will be constructed for higher capacity of 3.5 MTPA.</p> <p>Existing pollution control measures at Saunda B Siding are given below:</p> <p>a) Green mat fencing has been all around the siding. Additionally, RCC wall with profile sheet of 1530 m in length is proposed at an estimated cost of Rs. 3.97 crore</p> <p>b) 26 nos of Fixed sprinklers have been installed along the track of railway siding. Additionally, 33 numbers of fixed sprinklers will be installed at siding at an estimated cost of Rs. 14.41 Lakh.</p> <p>c) Afforestation has been done all around the siding.</p> <p>d) PM10 Analyser has been installed at the Saunda B Railway siding for continuous monitoring of PM10 dust and is online connected to JSPCB. e) Mobile sprinkler (18 kl tanker) for transport road. Sprinkling is done round the clock.</p>										
6	<p>PP shall submit status of proposed black topping of Approx. 1.5 km of permanent coal transportation road from UG Incline to Check Post near PO Office (timeline is June- 2022 as mentioned in EIA Report).</p>	<p>1. Coal transportation road has been black topped (Around 2.50 km).</p> <p>2. Additional proposal for black topping of Approx. 1.5 km of permanent coal transportation road from UG Incline to Check Post near PO Office at cost of ₹ 1,59,61,806.01 has been initiated (enclosed as Annexure-VII) and the timeline is as follows</p> <table border="1" data-bbox="803 1507 1502 1883"> <thead> <tr> <th data-bbox="803 1507 1123 1675">Activities</th> <th data-bbox="1123 1507 1256 1675">NIT / Tending</th> <th data-bbox="1256 1507 1369 1675">Work Order</th> <th data-bbox="1369 1507 1502 1675">Completion of Work</th> </tr> </thead> <tbody> <tr> <td data-bbox="803 1675 1123 1883">Black topping of Approx. 1.5 km of permanent coal transportation road from UG Incline to</td> <td data-bbox="1123 1675 1256 1883">September 2022</td> <td data-bbox="1256 1675 1369 1883">November 2022</td> <td data-bbox="1369 1675 1502 1883">March 2023</td> </tr> </tbody> </table>			Activities	NIT / Tending	Work Order	Completion of Work	Black topping of Approx. 1.5 km of permanent coal transportation road from UG Incline to	September 2022	November 2022	March 2023
Activities	NIT / Tending	Work Order	Completion of Work									
Black topping of Approx. 1.5 km of permanent coal transportation road from UG Incline to	September 2022	November 2022	March 2023									

		Check Post near PO Office			
7	PP shall submit measures to ensure to avoid damage to surface water bodies due to underground mining activities.	<p>1. Report on Subsidence prediction and management for Bhurkunda Underground Mines, CCL is provided</p> <p>2. Following measures will be undertaken to avoid damage to surface water bodies due to underground mining activities:</p> <p>a) Nakari River and Kurse nala are outside the subsidence influence area. Therefore, these are not being affected by subsidence.</p> <p>b) Surface cracks formed due to subsidence will be filled up with clay and stone chips and thereafter with about 0.3m high clay heap over the cracks. It will help in maintaining the original drainage pattern in the mining area, improving water retention capacity of the soil.</p> <p>c) A team will be formed for mine management that will be responsible for the proper and regular filling of surface cracks developed due to subsidence. The team will also maintain a record of the development and filling of surface cracks</p>			

30.3.4 *The EAC, after deliberations observed that instant proposal is being considered under Ministry's notification dated 14th March, 2017 i.e. under violation category. Project Proponent have provided the revised damage assessment cost as suggested by EAC in previous meeting and accordingly proposed the cost of remediation plan, Natural Resource Augmentation Plan and Community Resource Augmentation Plan.*

PP has submitted the revised damage remediation plan of total Rs. 115550000/- and Natural & Community Augmentation Plan of total Rs. 76000000/-. EAC has found it satisfactory based on damage assessment. With regard to forest, PP has submitted letter through PCCF that the forest was broken prior to 1980 and requirement of Forest Clearance may be assessed by Ministry's FC Division. It was observed that since mine was working without EC and based on CTO, also permission of extraction of ground water from Central Ground Water Authority was not obtained, though application for the same has been initiated. The PP had also provided the undertaking that activities are not overlapping with other coal mines.

Further, EAC observed that instant project lies in District Ramgarh and as per Hon'ble NGT order dated July 10, 2019 in the matter of Original Application No. 1038/2018 wherein District Ramgarh (CEPI Score is 66.75) comes under Severely Polluted Areas. It was deliberated in detail and opined

that since this is not a greenfield or expansion proposal and PP intends to regularize its production by taking EC under the ambit of EIA Notification, 2006 and its amendments therein. Further, Ministry, if required, may take a view regarding applicability of order of Hon 'ble NGT for ban of new or expansion project in the said SPA (Ramgarh).

EAC also observed that observations by Sub -committee of EAC (Violation), MOEF&CC during their visit on 19/01/19 and action taken report and opined that PP has to do more work on compliance and accordingly commitment of time line should be completed within a year.

It is mandatorily recommended by EAC to take all the proper mitigation measures for combating pollution especially for air and other commitments made by PP in vide letter dated GM/ E& F/2022/234 and 345 dated 16.04.2022 & 18.05.2022 , as proposed by PP for Saunda D Colony, & additional 2000 numbers of native/fruit bearing plants around the colony/guest house in FY 2022-23 monsoon. Total 9.6 crores have been proposed for Air pollution control measures in EIA/EMP report of Bhurkunda Colliery which will further help in mitigation of air pollution at the two sites. Black topping for black topping of Approx. 1.5 km of permanent coal transportation road from UG Incline to Check Post near PO Office.

It was also found that no recent work order is shown to filling of subsidence area and cracks so EAC mandatorily asked the PP to keep a proper record of the respective committee visit & recommendations with latest work order for filling the surface cracks. On enquiring about the new railway line at Saunda B Siding for transportation of coal with silo loading facility the existing Saunda B Railway Siding has a capacity to dispatch coal of about 8 MTPA. Coal from Bhurkunda Colliery can be dispatched within existing capacity of Saunda B Railway Siding. The PP informed that in proposed expansion of Bharkunda Colliery upto 3.5 MTPA (Mining plan under approval process), the coal will be dispatch by Belt-Conveyor & Rapid Loading System at Saunda B Railway Siding.,

Based on documents and commitments submitted by PP, EAC **recommends** the proposal under violation category to EC for Bharkunda OCP for production capacity of 2.05 MTPA (1.75 MTPA for OC and 0.30 MTPA for UG) in an area of 910.16 Ha by M/s Central Coalfields Limited, located at village Balkudra, Kurse, Deoria-Bargawan and Dhundua, Tehsil Patratu, District Ramgarh (Jharkhand), under EIA Notification, 2006 and subsequent amendments/circulars thereto subject to the compliance of the following terms & conditions / specific conditions for environmental safeguards:

- (i) EAC recommended an amount of Rs. 115550000 towards Remediation plan and Rs 7600000 towards Natural and Community Resource Augmentation plan, which should be spent within a span of 3 years. The details of Remediation plan, Natural resource Augmentation plan and Community Resource Augmentation plan with budgetary provision are mention above

A. Remediation plan along with the action plan with a budget of Rs. 115550000

Remediation plan & budgetary provisions					Action Plan		
SN		Activity Proposed	Name of Village(s)	Total (₹)	Year 01	Year 02	Year 03

1	Water Environment	Stone pitching of embankment with construction of PCC Protective wall of length 700 m against Nakari River at Balkudra Opencast mine under Bhurkunda Project. (Proposal Initiated on 21.01.2022)	Balkudra & Kurse	10000 000	10000 000	0	0
2		Plantation along the banks (6 Ha.) of Nakari Nadi	Balkudra & Kurse	30000 00	15000 00	1500 000	0
3		Protection and Cleaning of Kurse Stream	Kurse	25000 00	50000 0	1000 000	10000 00
Total Water Environment				15500 000	12000 000	2500 000	10000 00
1	Ecology	Distribution of fruit bearing Saplings like Amla, Guava, Mango, Lichi etc. to nearby villagers (7000 Saplings)	Balkudra, Kurse, Deoriya and Dunduwa (Rs 3,75,000 in each of 4 villages in course of three years)	15000 00	50000 0	5000 00	50000 0
2		Development of Sal Nursery (9 Ha) for raising saplings, training and distribution and to nearby villagers	Balkudra	10000 000	0	7500 000	25000 00
3		Development of Ecological Park (About 10 Ha. At Barka-Sayal Area)	Kurse	73700 000	0	5000 0000	23700 000

Total Ecological Environment					85200 000	50000 0	5800 0000	26700 000
Remediation plan & budgetary provisions					Action Plan			
SN		Activity Proposed	Name of Village(s)	Total (₹)	Year 01	Year 02	Year 03	
1	Air & Noise Environment	Additional Health Camps to monitor the respiratory and E&T health status of nearby villages (Kurse, Saunda, Devariya etc.) @ quarterly for 3 years	Balkudra, Kurse, Deoriya, Saunda and Dunduwa (Rs 4,00,000 in each of 5 villages in course of 3 years)	200000 0	666667	666667	666667	
2		Additional avenue Plantation and maintenance in subsequent years on village roads adjacent to project boundary	Balkudra, Kurse, Deoriya, and Dunduwa. (Rs 3,75,000 in each of 4 villages in course of three years)	150000 0	500000	500000	500000	
3		Provision of 1 no. of Road Sweeping machines for dust extraction in villages Kurse, Bhurkunda & Saunda	Balkudra, Kurse, Deoriya, Saunda and Dunduwa	800000 0	0	8000000	0	
Total Air Environment				115000 00	116666 6.67	9166666 .667	1166666.667	

1	Land Environment	Provision of community level waste collection bins in the villages Bhurkunda, Kurse, Devaria and Saunda etc. (50 nos.)	Balkudra, Kurse, Deoriya, Saunda and Dunduwa	150000	100000	50,000	-
Total Land Environment				150000	100000	50000	0
Remediation plan & budgetary provisions					Action Plan		
Sl NO		Activity Proposed	Name of Village(s)	Total (₹)	Year 01	Year 02	Year 03
1	Socio-Economic	Additional Skill development training Programme to the unemployed Youth (Computer Training, Mobile repairing, Beautician training, Mason, Plumber etc.)	Balkudra, Kurse, Deoriya, Saunda and Dunduwa (Rs 3,00,000 in each of the 5 villages in course of 3 years)	1500000	500000	500000	500000

2		Construction of additional community toilets in Hurumgara village (3 nos.)	Deoriya	1000000	300000	300000	400000
3		Organizing additional Sports and cultural festivals	Balkudra	40000	10000	15000	15000
			Kurse	40000	10000	15000	15000
			Deoriya	40000	10000	15000	15000
			Dunduwa	40000	10000	15000	15000
			Saunda	40000	10000	15000	15000
4		Additional awareness programs on Environmental protection	Balkudra	100000	40000	40000	20000
			Kurse	100000	40000	40000	20000
			Deoriya	100000	40000	40000	20000
			Dunduwa	100000	40000	40000	20000
			Saunda	100000	40000	40000	20000
Total Socio-Economic Environment				3200000	1050000	1075000	1075000
Total Fund for remediation measures				11555000	14816666.67	70791666.67	29941666.67

B. Natural & Community Resource Augmentation Plan along with action plan with a budget of Rs. 7600000

SN	Head	Activity Proposed	Name of Village(s)	Total (₹)	Year 1	Year 2	Year 3
1	NRAP	Provision for roof top Rain water	Balkudra	1000000	500000	500000	0
			Kurse	1000000	500000	500000	0

		Harvesting structures at 8 locations in adjacent villages	Deoriya	1000000	500000	500000	0
			Dunduwa	1000000	500000	500000	0
		Total NRAP		4000000			
2	CRAP	Installation of solar street lights (100 nos.) at different places in Barkagaon Block falling in the buffer zone	Potanga (25 Nos)	250000	125000	125000	0
			Urimari (25 Nos)	250000	125000	125000	0
			Aswa (25 Nos)	250000	125000	125000	0
			Tillaiya (25 Nos)	250000	125000	125000	0
3		Providing solar lamps along the roads and supply of Solar lights to households in nearby villages (50 Nos Approx.)	Balkudra	250000	75000	75000	100000
			Kurse	250000	75000	75000	100000
			Deoriya	250000	75000	75000	100000
			Dunduwa	250000	75000	75000	100000
4		Provision of solar based handpumps/ borewells for drinking water at Upar tola, kamla tand in Kurse village	Kurse	1600000	800000	800000	0
		Total CRAP		3600000			
Grand Total				7600000	3600000	3600000	400000

Summary

Sl. No.	Description	Estimated cost (Rs.)
1	Remediation Plan	11,55,50,000
2	Natural Resources Augmentation Plan	40,00,000
3	Community Resources Augmentation Plan	36,00,000
	Total	12,31,50,000

- (ii) Total budgetary provision with respect to Remediation plan and Natural & Community Resource Augmentation plan is Rs. 1231.5/- lakhs. Therefore, project proponent shall be required to submit a bank guarantee of an amount of Rs. 1231.5/- Lakhs towards Remediation plan and Natural and Community Resource Augmentation plan with the SPCB prior to the grant of EC.
- (iii) Remediation plan shall be completed within three years from date of issue of EC only whereas

bank guarantee shall be for 5 years. The bank guarantee will be released after successful implementation of the remediation plan and Natural and Community Resource Augmentation Plan, and after the recommendation by regional office of the Ministry, Expert Appraisal Committee and approval of the Regulatory Authority.

- (iv) Further proposal of expansion/amalgamation of mine shall only be considered only when full compliance of existing EC conditions along with compliance of Remediation plan and Natural & Community Resource Augmentation plan for amount Rs. 1231.5/- lakhs are accomplished.*
- (v) PP to implement the State Action Plan drawn for severely polluted area and it shall be implemented in time bound manner. PP to interact with SPCB in this regard.*
- (vi) PP must accomplish the proposal for development of Hi-Tech SAL nursery in an area of approximately 9 Ha near the bank of Naikari River which has been submitted to DFO, Ramgarh vide Ref no. CCL/GM(E&F)/2022/137 dt 28/2/2022*
- (vii) PP shall implement in-pit conveyor system with silo loading facility till railway siding within 2 years (March-2024) and No road transportation shall be allowed beyond this time.*
- (viii) PP shall comply with the observations by Sub -committee of EAC (Violation), MOEF&CC during their visit on 19/01/19 within one year from the date of issue of EC.*
- (ix) PP to submit the tree implementation plan along the road side of transportation route including mine periphery area within 2 months from date of issue of EC to IRO, MoEF&CC. A detailed report with GIS images of every 3 months subsequently be submitted in every six monthly report to justify the adequate tree plantation.*
- (x) PP to earmark additional Rs. 306 lakhs to address the issues arose during public hearing, which should be implemented as per the timeline mentioned in ADS rely Vide letter GM/E&F/2022/234 dated 16.04.2022. Plan in this regard should be submitted within 3months to IRO, MoEF&CC.*
- (xi) PP shall submit the progressive status of STP construction at Hospital colony, Patel Nagar and Lapanga proposed at estimated cost of 1311 Lakhs to IRO by March, 2023.*
- (xii) Approval/permission of the CGWA/SGWA shall be obtained before drawing ground water for the project activities, if applicable. State Pollution Control Board (SPCB) concerned shall not issue Consent to Operate (CTO) till the project proponent obtains such permission.*
- (xiii) The Environmental Clearance will not be operational till such time the Project Proponent complies with all the statutory requirements and judgment of Hon 'ble Supreme Court dated the 2nd August 2017 in Writ Petition (Civil) No. 114 of 2014 in the matter of Common Cause versus Union of India and Ors.*
- (xiv) State Government concerned shall ensure that mining operation shall not commence till the entire compensation levied, if any, for illegal mining paid by the Project Proponent through their respective Department of Mining & Geology in strict compliance of judgment of Hon 'ble Supreme Court dated the 2nd August 2017 in Writ Petition(Civil) No.114 of 2014 in the matter of Common Cause versus Union of India and Ors.*
- (xv) PP shall engage third party independent expert agency for monitoring/auditing of compliance of EC conditions every year.*
- (xvi) 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.*

- (xvii) PP to keep a proper record of the respective committee constituted, its visits & recommendations with latest work order for filling the surface cracks due subsidence.
- (xviii) Effective dust suppression system shall be adopted at the transportation site and in the other parts of the mining lease to arrest the fugitive dust emission
- (xix) Project proponent shall take necessary other clearances/permissions under various Acts and Rules if any, from the respective authorities / department.
- (xx) PP shall install online water quality monitoring system for checking the quality of mine water and display outside main gate of colliery before discharge from its settling pond.
- (xxi) In pursuance to the Ministry's OM dated 30.09.2020, Project Proponent shall take up the activities for community development under EMP
- (xxii) PP shall plant Additional 2000 numbers of native/fruit bearing plants around the colony/guesthouse in before commencement of monsoon and furnish the detail within 3 months to the respective IRO, MoEF&CC
- (xxiii) PP must obtain 4.5-star rating of MoC in the year 2022-23 and report shall be submitted to IRO.
- (xxiv) Periodical health check-up shall be conducted to monitor the impact of heavy metals present in core zone & buffer zone air quality and also to prepare an action plan to reduce heavy metals concentration and also report to be submitted to concerned regional office of MoEF&CC.
- (xxv) PP shall take necessary action to implement all the activities as per the timeline mentioned in ADS rely Vide letter GM/E&F/2022/234 and 345 dated 16.04.2022 & 18.05.2022 on PARIVESH Portal. In case of same activity, the updated version may be considered Plan in this regard, should be submitted within 3 months to IRO, MoEF&CC.
- (xxvi) 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. 30.4

Lakhpat & Punharajpur Lignite Block with production capacity 3.0/4.5 MTPA Lignite (N/P) [& 29.81 MTPA limestone] in project area of 2959.6715 Ha of M/s Gujarat Mineral Development Corporation Limited located near village Punharajpur and Lakhpat, Taluka Lakhpat, District Kutch (Gujarat) -For Terms of References – reg.

[Online Proposal no IA/GJ/CMIN/241556/2021 F. No. IA-J-11015/111/2021-IA-II(M)]

30.4.1 The proposal is for Terms of Reference to Lakhpat & Punharajpur Lignite Block with production capacity 3.0/4.5 MTPA Lignite (N/P) & 29.81 MTPA limestone in project area of 2959.6715 Ha of M/s

Gujarat Mineral Development Corporation Limited located near village Punharajpur and Lakhpat, Taluka Lakhpat, District Kutch (Gujarat).

30.4.2 The details of the proposal, as ascertained from the proposal documents are given as under:

- (i) The project area is covered under Survey of India Topo Sheet No. 41 A/9, 41 A/10, 41 A/13 & 41 A/14 and is bounded by the geographical coordinates ranging from Longitude E 68°43'22.983" & E 68°47'30.417" and Latitude N 23°44'40.429" & N 23°49'19.872".
- (ii) There is no interlinked project. The Lignite from this mine is not for captive use, however, GMDC has practiced to supply lignite for their lignite based thermal power plant at Akrimota and also to the State-owned lignite based thermal power plant at Kutch and other customers.
- (iii) Joint venture cartel has not been formed.
- (iv) Project does not fall in the Critically Polluted Area (CPA), where the MoEF&CC's vide its OM dated 13th January, 2010.
- (v) Employment generation, 1000 (Departmental: 200, Contractual: 650 & Security: 150).
- (vi) The project is reported to be beneficial in terms of economic benefits to the state by the way of Royalty for mineral and to the local people by way of direct and secondary employment opportunities.
- (vii) The project is of utmost importance to the area/ region for interest of mineral development and shall greatly contribute to improve the socio-economic conditions of the local habitants. The operation of the proposed project will bestow various social and economic benefits to the local communities of the area in addition to providing better employment opportunities.
- (viii) The mining project shall improve social infrastructure of the area, apart from increased financial benefits accruing to state and central agencies by ways of taxes, royalties, cesses etc.
- (ix) The project shall be carried out in a sustainable way with a target to develop human and environment together with an eco-friendly mining method. Overall, it will have no adverse impacts on any of the environmental or socio-economic parameters; hence from environment & socio-economic point of view, the proposed production level shall be feasible for all purpose.
- (x) Total mining lease area as per block allotment is 2959.6715 Hectare. Mining Plan (Including Progressive Mine Closure Plan) has been approved by the Ministry of Coal (MoC) on 5th Oct'2020, vide letter F. Number 55026-3-2020-MPS.
- (xi) The land usage pattern of the project is as follows:

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

12	Land Use	Within ML Area (ha)	Outside ML Area (ha)	Total
1.	Agricultural Land	395.00	-	395.00
2.	Forest land	-	-	-

12	Land Use	Within ML Area (ha)	Outside ML Area (ha)	Total
3.	Waste land	-	-	-
4.	Grazing land	-	-	-
5.	Surface Water Bodies	2.30	-	2.30
6.	Settlements (Road)	2.42	-	2.42
7.	Other (Barren Land)	2559.9515	-	2559.9515
8.	Old Excavation Area (East Quarry)	-	-	-
9.	Old Excavation Area (West Quarry)	-	-	-
10.	Old OB Dumps	-	-	-
11.	Roads & Mine Infrastructure	-	-	-
12.	R & R Colony	-	-	-
13.	Staff Colony	-	-	-
14.	Green Belt	-	-	-
15.	Balance Area	-	-	-
Total		2959.6715	-	2959.6715

Post Mining (Area in Ha):

Type	Land Use (Post Closure)						
	Agricultural Land	Plantation	Water Body	Public/ Company Use	Forest Land (Returned)	Undisturbed	Total
Excavation Area							
Backfilled Area	728	947.34	-				1675.34
Excavated Void			471.00				471
Without Plantation							
Top Soil Dump		7.68					7.68
External Dump /surface dump		100.62		-			100.62
Safety Zone		49.84					49.84
Haul road between quarries				9.02			9.02
Diversion/ Below River / Nala / Canal				18.96			18.96
Road & Infrastructure area		14.06		17.93			31.99

Undisturbed / Mining Rights for UG						603.67	603.67
Water Harvesting				4.88			4.88
Total	728.00	1119.54	471.00	50.79	0.00	603.67	2973.00

- (xii) Gross geological reserve and net geological reserve for lignite of the block are 161.59 million tons (MT) and 145.43 MT respectively with 105.52 MT mineable reserve. Out of total mineable reserve of 105.52 MT, 100.25 MT are available for extraction. Percent of extraction is 95 %. Considering cut off as >34% CaO, total Geological resource of Limestone is 707.13 Million tonne. Mineable reserve of limestone is 678.76 Million Tonne.
- (xiii) Total 12 nos. of lignite seams with thickness ranging from 0.30 m – 15.83 m are workable. Grade of coal is G2,stripping ratio14.65, while gradient is 1⁰-4⁰
- (xiv) Method of mining operations envisages by opencast method.
- (xv) Life of mine is 39 years including one year of pre mining developmental works considering the planned production schedule.
- (xvi) The project has one external OB dump in an area of 100.62 ha with 30 m height and 89.03 Mm³ of OB and 12.65 Mm³ of Top Soil. One internal OB in an area of 1675.34 ha with 1123.94 Mm³ of OB is envisaged in the project.
- (xvii) Total quarry area is 2146.34 ha out of which backfilling will be done in 1675.34 ha while final mine void will be created in an area of 471.00 ha with a depth of -60 mRL. Backfilled quarry area of 947.34 ha shall be reclaimed with plantation. Final mine void will be converted into a water body.
- (xviii) Transportation of coal has been proposed by Rear dump trucks in mine pit head, and shall be stacked in ROM Lignite Stack yard. The produced Lignite in tipping trucks loaded from stock is proposed to be transported by road to the end use power plants.
- (xix) Reclamation Plan in an area of 2146.34 ha, comprising of 108.3 ha of external dump, 1675.34 ha of internal dump and 1119.54 ha of green belt.
- (xx) No forest land has been reported to be involved in the project.
- (xxi) Please mention any National Parks, Wildlife Sanctuaries and Eco-Sensitive Zones fall within 10 km boundary of the project.
Narayan Sarovar Wildlife Sanctuary is present at a distance of 9.34 Km towards South which is outside ESZ declared vide Gazette Notification No. S.O. 1257(E), dated 31st May, 2012.
- (xxii) Wildlife conservation plan for schedule – I species to be submitted.
- (xxiii) The ground water level has been reported to be varying between 4.52 m 6.51 m. Total water requirement for the project is 1940.00 KLD. Permission is yet to be obtained.
- (xxiv) A seasonal nala is passing along the south-western part of the block. The nala needs to be diverted within 25th year from the commencement of the mining operation after consultation with the Water Resource Department of the State Government.
- (xxv) Regular monitoring of Ambient Air quality will be carried out as per the guideline of MoEF & CC. Monitoring report will be submitted along with half yearly EC compliance report.

- (xxvi) No court cases, violation cases are pending against the project of the PP.
- (xxvii) The project does not involve violation of the EIA notification 2006, production will be started after obtaining necessary statutory approval from concern authorities.
- (xxviii) There is no PAF within the Block. Shifting of Families are not associated with this project. However, Compensation in accordance with the prevailing Norm of State R & R Policy and prevailing Rules & regulations will be undertaken and implemented by GMDC.
- (xxix) Total cost of the project is Rs. 144717.48 lakhs. Cost of production is not yet estimated, CSR cost as per the prevailing norms and guidelines, R&R cost is not needed as the block are does not have any human settlement. Total capital costs regarding implementation of EMP has been estimated as Rs. 12.91 crore and total recurring cost for the entire life of the mine (39 years) has been estimated as Rs. 28.98 crore. Therefore, operational cost for Environment Protection would be around Rs. 0.74 Crore/year.

30.4.3 The EAC during deliberations noted the following:

- Gujarat Mineral Development Corporation (GMDC) had applied for a lignite and Limestone mine lease over an area of 3389 ha. The block area applied by GMDC is at a distance of 9.34 km from the limits of Narayan Sarovar Wildlife Sanctuary (NSWLS). The Honorable Supreme Court of India in their directive passed on 02-05-2008 permitted the State Government of Gujarat to process the lease applications which were beyond 2.5 km radius of notified NSWLS.
- This block area of 3389 ha was later revised to 3319 ha because 70 ha fall under coastal regulatory zone (CRZ) in 2009 and got approved accordingly. The block area got once again reduced to 2973 hectares due to the deletion of overlapping area meant for oil and gas exploration. Ministry of Coal in-principally approved 2973 hectares vide their letter. No-11033/09/2015-CA-II dated 07-12-2016 for reservation of the block area in favor of GMDC Ltd. for exploitation and advised the state to submit a reservation copy to them.
- No Objection Certificate has also been obtained for reservation of area 2973 ha of village Lakhpat & Punharajpur under the provision of MMDR Act-1957 from Neyveli Lignite Corporation Limited. Accordingly, a gazette notification was issued by Government of Gujarat (No-GUJ-2017-23-MCR-102015-406-CHH-1 dated 3-7-2017) for reservation of the area for exploitation of lignite and limestone and submitted to the Ministry of Coal, New Delhi.
- Further the block area got reduced to 2959.6715 Ha, by forest department, as per Chief Conservator of Forest, Kutch circle's letter no. B/Jaman/Ta.12/8332-35/19-20, dated 10/12/2019 as mentioned in the order by Government of Gujarat, Industries and Mines Department, vide orderno.MCR-102015-406-CHH1 (Part File), dated 25/10/2021.

- Detail exploration was undertaken at Lakhpat & Punharajpur Lignite Block and Geological Report has prepared for approval of Mine Plan from Ministry of Coal, GOI. Mine plan along with Mine closure plan, which has been approved by the Ministry of Coal (MoC) on 5th Oct'2020, vide letter F. No. 55026-3-2020-MPS.
- Limestone production is on higher side i.e (29.81 MTPA) than lignite (4.5 MTPA-peak), PP has given clarification w.r.t. EC & Mine Plan for limestone separately as mentioned below:
 - a) Since the area is mainly reserved for lignite, the PP (GMDC) has applied ToR for lignite mining with limestone as associated mineral. The pollution load for excavation of lignite mining along with handling of overburden/waste including limestone would be same for this project. So single EIA/EMP may cover both.
 - b) Mining plan for Lignite is approved by MoC as mentioned in above section; however limestone being a major mineral, a separate mine plan is requisite under Rule 17(2) of minerals (Other than Atomic and Hydro carbon energy minerals) Concession rules 2016 and Rules 23 of MCDR' 2017 and approval . Once the mine plan for limestone will be approved by Indian Bureau of Mines, it shall be uploaded at MoEF & CC / parivesh portal

30.4.4 *The EAC, after deliberations found it is green field project with gross geological reserve for lignite is 61.59 million tons (MT) and Limestone is 707.13 Million tonne, which will be extracted as OB. The limestone is a major minerals and also need Environmental Clearance. The EAC opined that the PP must furnish both the mine plans i.e. for Lignite as well as Lime stone before applying for EC and the matter may also be applied to the non -coal mining committee to seek additional ToR as per the Ministry's OM dated 24.12.2010 regarding integrated and interlinked projects.*

EAC noted that ROM (limestone) will be transported from different mining faces in a pre-determined proportion (for blending different qualities of ore), and will be delivered to the Crushing & Screening Plant. The EAC had asked PP opt proper mitigation measures to combat air pollution. The EAC also asked PP to opt a proper mining plan as there is a chance of huge water seepage due Kori Creek located at a distance of 1.5 km from the boundary of the project site. It was also observed that PP will use the surface miner for Limestone excavation with occasional drilling & blasting while Lignite being a softer material shall be excavated directly through Shovel. Lignite Stack yard has been planned in the east central part of the block just south of the HT line to be shifted at later phase of the mining operation.

The EAC mandatorily recommended the PP to opt surface miner for Lignite. PP informed that the produced Lignite in tipping trucks loaded from stock is proposed to be transported by road to the end use power plants of the GMDC Ltd. and also to the State owned lignite based thermal power plant at Kutch and others Proposed applied area is situated just adjacent to SH-42 and 21 km away from NH-8A. In this aspect, EAC recommended the GMDC Limited to implementation of inpit conveyor belt system with silo loading system at railway siding.

It is also found that the area applied by GMDC is situated at a distance of 9.34 km from Narayan Sarovar wildlife sanctuary (NSWLS) vide S.O. 1257(E) dated 31st May 2012 of MOEF and the block is also outside of the Eco Fragile zone of Narayan Sarovar Wildlife sanctuary so EAC asked the PP to seek clarification from competent Authority that the lease area is away from the outer boundary and

not fall in the CRZ. Accordingly, it was agreed to conduct site visit by sub-committee of EAC members looking into the proximity of project area near environment sensitive areas.

The plantation proposed by PP was inadequate so EAC asked PP for development plan @ 2500/ Ha (considering total lease area) and suggested them to provide enough space for providing enabling surrounding for Great Indian Bustard and mostly native grasses, plants & trees for its proper survival

EAC finally recommended Terms of References to Lakhpat & Punharajpur Lignite Block with production capacity 3.0/4.5 MTPA Lignite (N/P) & 29.81 MTPA limestone in project area of 2959.6715 Ha of M/s Gujarat Mineral Development Corporation Limited located near village Punharajpur and Lakhpat, Taluka Lakhpat, District Kutch (Gujarat), under the provisions of EIA Notification, 2006 and its amendments therein with following additional specific conditions to be followed:

Specific TOR

- (i) As per the MoEF&CC's OM dated 24.12.2010, PP to apply the TOR separately for operation of limestone mine to respective sector under the provisions of EIA, Notification for preparation of common EIA-EMP report.*
- (ii) PP to undertake the public hearing for Common EIA-EMP reports on both operations i.e lignite mine and limestone and submit the final EIA-EMP report to respective sectors simultaneously for their appraisal as MoEF&CC OM dated 24.12.2010. Public Consultation, clearly indicating both the minerals Lignite as well as Limestone shall be conducted through the concerned SPCB as per the provisions/procedure contained in the EIA Notification, 2006 for information of the stakeholders about the present coal mining operations inviting comments and their redressal. All the issues should be incorporated in EIA along with its time bound action plan and budgetary provision. Also the issue raised in public hearing held earlier should also be addressed with time line action plan and budgetary provision in EIA/EMP report.*
- (iii) PP to seek clarification/ NOC from competent Authority that the lease area does not fall in CRZ boundaries and is away from the outer boundary of wildlife sanctuary and.*
- (iv) The PP must furnish both the mine plans i.e. for Lignite and Lime stone before applying for EC. The revision in mining plan may be seek by PP as the suggestion of EAC like seepage of water, opting surface miner for Lignite also.*
- (v) No stream or nala diversion shall be undertaken.*
- (vi) PP shall implement inpit conveyor belt system with silo loading system at railway siding.*
- (vii) PP to mine the reserve through surface miner for both operations.*
- (viii) PP should submit the real time aerial footage and video of the Mining lease area made through drone with a special focus on the area adjacent to the rivers.*
- (ix) PP shall prepare a Plan for implementation of Continuous Automatic Air Quality Monitoring Station (CAAQMS) at mine site or its vicinity.*
- (x) The EMP measure to be adopted for both Lignite as well as Limestone as drilling & blasting also crushing is involve in Lime stone handling.*
- (xi) PP to furnish the green belt development plan @ 2500/ Ha (considering total lease area) and suggested them to provide enough space for providing enabling surrounding for Great Indian Bustard and mostly native grasses, plants & trees for its proper survival.*

Monitoring

- (xii) *PP shall collect baseline data of all environmental parameters and shall compare with the data of earlier data collected for cumulative assessment of area.*
- (xiii) *Air pollution impact predication shall be conducted by considering the maximum values.*
- (xiv) *Wind rose pattern in the area should be reviewed and accordingly location of AAQMS shall be planned by the collection of air quality data. Monitoring location for collecting baseline data should cover overall the 10 km buffer zone i.e. dispersed in 10 km buffer area.*
- (xv) *Impact of proposed project/activity on hydrological regime of the area shall be assessed and report be submitted. Hydrological studies as per GEC 2015 guidelines to be prepared and submitted*
- (xvi) *The impact of mine operation on the river bodies flowing within the boundary of the mine with its mitigation measures adopted should be clearly spell in the EIA/EMP report with flood plain protection measures.*
- (xvii) *Heavy metals including other parameters in surface water quality shall be analyzed and provided in EIA Report. Further, detailed mineralogical and chemical composition of the mineral and percentage of free silica in Air quality and other parameters Arsenic, Lead shall also be analyzed in ambient air quality & to be furnished in EIA/EMP report*
- (xviii) *The PP while carrying out base line monitoring should submit the photograph of monitoring stations & sampling locations. The photograph should bear the date, time, latitude & longitude of the monitoring station/sampling location. In addition to this PP should also submit the original Lab reports of air, water, soil and noise quality and NABL/MoEF&CC certificates of the respective laboratory.*
- (xix) *PP shall submit design details of all Air Pollution control equipment (APCEs) to be implemented as part of Environment Management Plan vis-à-vis reduction in concentration of emission for each APCEs.*
- (xx) *A detailed traffic study along with presence of habitation in 100 mts distance from both side of road, the impact on the air quality with its proper measures and plan of action with timeline for widening of road. The project will increase the no. of vehicle along the road which will indirectly contribute to carbon emission so what will be the compensatory action plan should be clearly spell out in EIA/ EMP report.*
- (xxi) *The socio-economic study to conducted with actual survey report and a comparative assessment to be provided from the census data of 2011-part B to be provided in EIA/ EMP report also economic status of the study area and what economically project will contribute should be clearly mention. The study should also include the status of infrastructural facilities and amenities present in the study area and a comparative assessment with census data of 2011 part A to be provided and to link it with the initialization and quantification of need based survey for CSR activities to be followed.*
- (xxii) *The Ecology and biodiversity study should also indicate the likely impact of change in forest area for surface infrastructural development or mining activity in relation to the climate change of that area and what will be the compensatory measure to be adopted by PP to minimize the impact of forest diversion.*

- (xxiii) *Infrastructure & Mine Management*
- (xxiv) *Inpit conveyor belt with silo loading should be proposed and installed for transportation of coal till railway siding. No transportation of coal by trucks/dumpers shall be proposed in EIA/EMP.*
- (xxv) *PP shall submit detailed plan for implementation of railway siding for evacuation of coal with its target date of completion. Target date should be such that railway siding should be operational within 3 years of commissioning of mine operations. Forest Clearance shall be submitted if railway siding land comes under forest land.*
- (xxvi) *PP shall provide the details of mining technology/methodology proposed to be adopted for coal mining operations and its associated environmental benefits of using from Climate Change perspective by i.e. the likely emissions of greenhouse gases from the mining operations to be estimated with the modelling for future prediction related to the climate of that study area.*
- (xxvii) *PP should clearly bring out that what is the specific diesel consumption ~ (Liters/Tonne of total excavation & mineral) and steps to be taken for reduction of the same. Year-wise target for reduction in the specific diesel consumption needs to be submitted. Proposal for use of electric driven battery dumper shall be proposed being area is already polluted.*
- (xxviii) *Details of toe wall and garland drain to be constructed along the OB dump and proper plantation to be carried out*
- (xxix) *Reclamation to be done using geo-texturing technique of the dumps close to habitation and a cause of visual intrusion. Impact of proposed project/activity on hydrological regime of the area shall be assessed and report be submitted. Hydrological studies as per GEC 2015 guidelines to be prepared and submitted.*
- (xxx) *PP should bring out the awareness campaign to be carried out on various Environmental issues, practical training facility to be provided to the environmental engineer/diploma holders, mining engineer/diploma holders, geologists, and other trades related to mining operations. Target for the same needs to be submitted.*
- (xxxi) *Details of Fog mist sprayer (static water sprinklers) at coal stock yard and along the permanent haul road.*
- (xxxii) *PP shall propose to use LNG/CNG based mining machineries and trucks for mining operation and transportation of coal.*
- (xxxiii) *No trucks or vehicles used for transportation of Coal to be passed by village roads or roads located near to the villages. PP shall develop a pucca haul road for transportation of coal proper widening considering its carrying capacity, lightening and three tire plantation along the haul road. Details of black topping of permanent haul roads to be furnished in EIA /EMP report with its measurement and budgetary provision.*

Other

- (xxxiv) *The environmental sensitivity mentioning not only about the surface water bodies, Forest areas, Inter -state or country boundary etc but also the nearby other mines, coal washery, power plants and other industries etc located within the 10 km radius buffer zone present with its distance and direction from the periphery of the project boundary must be furnished in EIA/EMP report.*
- (xxxv) *Project proponent to prepare Environmental Cost Benefit Analysis for the project in EIA/EMP Report*
- (xxxvi) *Detailed Social Impact Assessment shall be prepared in villages for Rehabilitation and Re-*

settlement. R &R Activity shall be proposed with timeline and allotted fund with the approval of District Commissioner/collector. PP shall be submitting R &R in respect of SCs /STs and other weaker sections of the society in the study area, a need based sample survey, family-wise, should be undertaken to assess their requirements, and action programs prepared and submitted accordingly, integrating the sectoral programs of line departments of the State Government.

Agenda No. 30.5

Jamadoba Underground Coal Mine of 0.34 MTPA in ML Area of 927.17 ha by M/s Tata steel Limited at village Jorapokhar, Pattiya Dungri, Tehsil Jharia, District Dhanbad (Jharkhand) – For Environment Clearance- reg

[Online Proposal No. IA/JH/CMIN/109757/2019; File No. J-11015/91/2017- IA.II (M)]

30.5.1 The proposal is for Environmental Clearance of Jamadoba Underground Coal Mine of 0.34 MTPA in ML Area of 927.17 ha by M/s Tata steel Limited at village Jorapokhar, Pattiya Dungri, Tehsil Jharia, District Dhanbad (Jharkhand). Earlier, TOR was granted to the Jamadoba mine vide Letter No.J-11015/91/2017-IA.II (M) 30.11.2017 and its amendment on 16th October 2019

30.5.2 The EAC during deliberations noted the following:

Earlier, the project was deliberated on 8th meeting held on 11th February, 2021, 19th EAC meeting held during 23rd September, 2021 and 25th EAC meeting held during 18 to 20 January, 2022 for grant of Environmental Clearance wherein EAC desired certain information and it was deferred for want of clarification regarding the submission of CTOs from 1993-94 to know operational status of plant being applying for first time EC. PP has now submitted the CTO or its compliances submitted to the respective SPCB.

PP was advised to advised to submit copy of application submitted for seeking CTO from SPCB onward 1994 and or otherwise may seek clarification from State Pollution Control Board with respect to production figures beyond CTO during 1993-94 (base year) from the records submitted for taking CTO.

PP ha submitted that *they have approached Bihar State Pollution Control Board to seek clarification with respect to production figures and was directed to seek clarification from Jharkhand state Pollution Control Board as the documents are already sent to JSPCB. In this regard we further approach JSPCB vide letter No: JMB/115/000107 dt: 09.03.2022. We have followed up with JSPCB number of times, but the data is not traceable.*

It was submitted that the past production details of mines from 1984 onwards has been certified by District Mining Officer, Dhanbad, Dept. of Mines & Geology, Jharkhand vide Memo No .1885/M dated 31 .08 .2021 as per our stowing excise duty and monthly returns filed to District Mining Office and the same certificate was submitted to EAC Coal on 03 /09 /2021.

Further the production details authenticated and self-certified through an affidavit signed by General Manager, Tata Steel Limited, Jharia Division stating that *we have never exceeded the production with respect to the quantity granted by CTO* vide affidavit dated 25th April, 2022

30.5.3 *The EAC, after deliberations observed that instant proposal of EC should be considered as fresh EC proposal as this is first time PP is obtaining EC (earlier operated based on CTOs). EAC opined that older CTOs granted by Bihar State Pollution Control/Jharkhand State Pollution Control Board does not have production figures mentioned in the documents. However, PP in its self-certified notarised affidavit has submitted that production capacity beyond CTO has never been accepted. PP has submitted the letter from District Mining Office, Dhanbad, Department of Mines & Geology, Govt. of Jharkhand via its letter dated 31st August, 2021 has certified production and dispatch of Jamadoba Colliery. It was observed that coal washery having independent EC is being operated in the mine lease of this project. It was suggested by EAC, that PP shall merge the EC of mines and washery to have one single EC for one mine lease area. As per the available documents and undertaking submitted by PP, the EAC **recommends** the proposal for Environmental Clearance of Jamadoba Underground Coal Mine of 0.34 MTPA in ML Area of 927.17 ha by M/s Tata steel Limited at village Jorapokhar, Pattiya Dungri, Tehsil Jharia, District Dhanbad (Jharkhand), under the provisions of EIA Notification, 2006 and its amendments therein with following additional specific conditions to be followed:*

- (i) *PP to obtain the CTO for 0.34 MTPA capacity immediately after grant of EC.*
- (ii) *PP to conserve the Kari Jhore, Dungri Jhore, Damodar River flowing within the core area of the project and the measure taken for its conservation to be furnished in every six monthly compliances to be reported to respective IRO and SPCB*
- (iii) *Since there is also Jamadoba Coal washery located within the mine lease having separate EC vide Lr. No. J-11015/203/2011-IA.II(M) dated 3rd March 2014 so the adequate EMP measure to be adopted to minimize the cumulative impact, also the utilization of rejects generated from washery should be managed as per the norms. PP shall obtain amalgamated EC of coal washery and Underground mine as early as possible.*
- (iv) *PP shall obtain No Objection Certificate from Central Ground Water Authority for extraction of ground water within six months and submitted to IRO –Ranchi.*
- (v) *PP shall reduce river sand used for stowing and explore usage of sand segregated from OB dump from any nearest mine (either its own or any other mine) and submit detailed report to IRO-Ranchi and to Ministry while submitting amalgamation proposal.*
- (vi) *PP shall follow the recommendation of subsidence study and monitor the degree of subsidence regularly and shall be submitted to IRO-Ranchi.*
- (vii) *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*
- (viii) *PP to fulfill all the commitment made to address the public hearing issued in time bound manner as committed in EIA EMP report in Chapter 7 Table 7.1 and a progressive report to be furnished to IRO with every six monthly compliance report*
- (ix) *PP to maintain the transportation road properly to minimize 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.

- (x) PP to complete the estimated allocated budgetary expenditure for EMP capital cost is Rs. 273.0 lakhs & Recurring cost is Rs. 1359.4 Lakhs per year as per its letter dated JMB/115/001339 dated 3rd September, 2021. Capital EMP budget shall be completed within strict timeline.*
- (xi) 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.*
- (xii) 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.*
- (xiii) PP shall develop Rain water harvesting in Jamadoba coal Washery as proposed by PP in vide letter dated JMB/115/001339 dated 3rd September, 2021 & water harvesting ponds near the villages of suitable area as suggested by EAC in consultation with Gram Panchayat within 1 year and with cultivation of Lotus.*
- (xiv) PP must seek the input of experts for phytoremediation of Slurry and accordingly work on it with proper scientific approach*
- (xv) PP to plant additional 100,000 plants with three tier plantation along the transportation route, if not completed, and identified areas with consent to the gram panchayat within two year and plant for remaining within 2 years for their proper growth.*
- (xvi) 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*
- (xvii) 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*
- (xviii) Persons of nearby villages shall be given training on livelihood and skill development to make them employable with its proper records*
- (xix) 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*
- (xx) 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.*

(xxi) PP should establish in house (at project site) environment laboratory for measurement of environment parameter with respect to air quality and water (surface and ground. A dedicated team to oversee environment management shall be setup which should comprise of Environment Engineers, Laboratory chemist and staff for monitoring of air, water quality parameters on routine basis. Any non- compliance or infringement should be reported to the concerned authority.

Agenda No. 30.6

Coal Washery of production capacity of 5.0 MTPA (2.5 X 2.5 MTPA) based on Heavy Media Cyclone in an area of 12.65 Ha by M/s. Aryan Ispat & Power Pvt. Ltd. located at village Bomalai, Tehsil Rengali, District Sambalpur (Odisha) - For Terms of References -reg

[Online proposal No. IA/OR/CMIN/271448/2022 ; F. No. J J-11015/68/2016-IA-II(M)]

30.6.1 The proposal is for Terms of Reference to Coal Washery of production capacity of 5.0 MTPA (2.5 X 2.5 MTPA) based on Heavy Media Cyclone in an area of 12.65 Ha by M/s. Aryan Ispat & Power Pvt. Ltd. located at village Bomalai, Tehsil Rengali, District Sambalpur (Odisha).

30.6.2 The details of the proposal, as ascertained from the proposal documents are given as under:

- (i) The project area is covered under Survey of India Topo Sheet No: 64 O/13, O/14 & 73C/1 & C/2 and is bounded by the geographical coordinates ranging from Latitude: 21°42'39.1" to 21°42'49.6" N and longitude: 84°02'25.2" E to 84°02'43.9" E.
- (ii) Coal linkage of the project is proposed for ROM Coal will be sourced from MCL mines use for various Coal Washery.
- (iii) Joint venture cartel has been formed - No
- (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 - Not Applicable
- (v) Employment generation, Construction–200 nos and Operation–70 nos. employment to 270 persons will be provided from the project.
- (vi) The project is reported to be beneficial in terms of Direct and Indirect Employment.
- (vii) It is a Greenfield project.
- (viii) Earlier the project was considered by the reconstituted Expert Appraisal Committee (EAC) of thermal and coal mining projects in its 6th meeting held on 27th to 28th February, 2017 and 53rd and 55th meetings held on 17th to 18th March, 2016 & 11th to 13th May, 2016 respectively. The Terms of Reference (TOR) were issued vide MoEF&CC letter no. J-11015/68/2016-IA.II (M) dated 6th April 2017.
- (ix) No Forest Land Involved in the proposed Coal Washery.
- (x) There is no notified Sanctuary, National Park, Tiger reserve or Biosphere reserve within 15 km around the project site. Elephant corridor is about 36.5 km SE . Nearest fringe of Sambalpur Elephant Reserve [SER] - 0.1 km E , Mahanadi Elephant Reserve [MER] - 89.5 km SE
- (xi) The ground water level has been reported to be varying between 5 m to 10 m during pre-

monsoon and between 2 m to 10 m during post-monsoon. Total water requirement for the project is about 55 m³/hr KLD.

- (xii) Application for obtaining the approval of the Central Ground Water Authority for has been submitted on 29th December, 2017.
- (xiii) Dept. of Water Resources approved 4.41 cusecs (449.4 m³/hr) from Hirakud reservoir for the steel plant on 06.06.2017.
- (xiv) Public hearing for the project of 5.0 MTPA capacity in an area of 12.65 ha was conducted on 12.01.2021 at Bomaloi Gram Panchayat Office Premises, Bomaloi Village, Rengali Tehsil, Sambalpur District, Odisha State under the Chairmanship of Additional District Magistrate (Revenue), Sambalpur. Major issues raised in the public hearing include employment, and CSR.
- (xv) No court cases, violation cases are pending against the project of the PP
- (xvi) Total cost of the project is Rs. 6007 lakhs. Environment Management Cost is Rs crores; Capita: Rs. 1.55 crores & Recurring Rs. 0.12 crores.

30.6.3 The EAC during deliberations noted the following:

The proposal was considered by EAC in its 53rd meeting during 17th – 18th March, 2016 and 55th meeting from 11th – 13th May 2016, 6th meeting of re-constituted EAC from 27th – 28th February, 2017.

Sr.No	Description	Status
1	Terms of Reference	Vide letter no: J-11015/68/2016-IA.II(M), dated 6 th April, 2017
2	Baseline Environment Studies	March 2017 to May 2017 – Pre Monsoon Additional Baseline Studies: October 2019 to December 2019 – Post Monsoon
3	Public Hearing	12 th January, 2021 for the same project capacity and area i.e 5 MTPA and 12.65 Ha. Venue: Bomaloi Gram Panchayat Office premises Rengali Tehsil, Sambalpur District, Odisha State

PP informed that validity of TOR has been expired in the month of April 2022. PP has conducted the public hearing in the last year i.e on 12th January 2021 for the production capacity of 5 MTPA and 12.65 ha of project area. PP requested committee to exempt the public hearing as EIA-EMP has already been prepared; however, due to expiry of validity of TOR, PP has applied the fresh application.

30.6.4 The EAC, after deliberations found that it is a green field project on which public hearing has been conducted in the year January 2021 as per the earlier ToR granted on 6th April, 2017. On enquiry about delay in submission of previous EIA-EMP after completion of public hearing, the committee noted

that Consultant did not explain the PP properly. The EAC expressed displeasure to the consultant towards the project handling as the ToR validity is expired in last month only i.e April 2022. The PP requested to consider the public hearing already conducted on 12th January, 2021 while issuance of fresh TOR. Considering the OM dated 29th August 2017 wherein 3 years' limit of public hearing has been prescribed, EAC opined that public hearing in this project is merely one-year-old and also project is green filed, therefore, EAC exempted the public hearing for this proposal by following due diligence under the provision of para 7(ii) of EIA, Notification, 2006. However, EAC recommended to issue public notice to invite objection/suggestion, if any, to include the fresh issues out of notice as well as issues already arisen from the last public hearing and the same necessarily be incorporated in fresh EIA-EMP report.

EAC finally **recommended** Terms of References with exemption of public hearing to Coal Washery for production capacity of 5.0 MTPA (2.5 X 2.5 MTPA) based on Heavy Media Cyclone in an area of 12.65 Ha by M/s. Aryan Ispat & Power Pvt. Ltd. located at village Bomalai, Tehsil Rengali, District Sambalpur (Odisha) as per Ministry's Notification dated 6th April, 2018, under the provisions of EIA Notification, 2006 and its amendments therein with following additional specific conditions to be followed:

- (i) PP to issue the public notice for inviting suggestion/objection along with all the issues arising from public hearing held on 12th January 2021 and it should be incorporated in EIA along with its time bound action plan and budgetary provision. Also the issue raised in the should also be addressed with time line action plan and budgetary provision in EIA/EMP report.
- (ii) The coal washing technology so chosen should conform to 'Zero Liquid Discharge'.
- (iii) PP shall prepare EIA-EMP with detailed land use plan for washery infrastructure and furnish details of 33 % of the green belt plantation with trees within the plant boundary and also in adjoining area. Accordingly, three Tier Green belt developments all along the boundary in with time bound action plan in EIA/EMP report
- (iv) PP shall propose the minimal or no usage of ground water for washery operation since a pond is located near the project site. Permission for using surface water and ground water (if preferred) shall be submitted during submission of EC proposal.
- (v) PP should submit the complete water balance cycle need to be submitted considering only surface water usage for washery operations. In addition to this PP should submit a detailed plan for rain water harvesting measures to be taken. The PP should submit the year wise target for reduction in consumption of the ground water by developing alternative source of water through rain water harvesting measures. The capital and recurring expenditure to be incurred needs to be submitted.
- (vi) PP should submit the real time aerial footage and video of the Coal Washery made through drone
- (vii) PP shall furnish the MoU for its raw coal, washed coal and reject management, as per the respective MoC guidelines
- (viii) Mode of transportation should be clearly spell for raw coal, rejects and washed coal as the project is located near to the railway line. PP shall propose to implement conveyor system from railway siding for raw coal, washed coal and rejects till coal washery plant.
- (ix) PP to implement Closed Conveyor belt for transportation of washed coal to the Jairam railway siding with its proper action plan to avoid road transportation

- (x) *PP shall submit design details of all Air Pollution control equipment (APCEs) to be implemented as part of Environment Management Plan vis-à-vis reduction in concentration of emission for each APCEs.*
- (xi) *PP shall propose to develop two water harvesting pond of 15 days storage capacity of washery operations.*
- (xii) *The socio-economic study to be conducted with actual survey report and a comparative assessment to be provided from the census data of 2011-part B to be provided in EIA/ EMP report also economic status of the study area and what economically project will contribute should be clearly mention. The study should also include the status of infrastructural facilities and amenities present in the study area and a comparative assessment with census data of 2011 part A to be provided and to link it with the initialization and quantification of need based survey for CSR activities to be followed.*
- (xiii) *A detailed traffic study along with presence of habitation in 100 mts distance from both side of road, the impact on the air quality with its proper measures and plan of action with timeline for widening of road.*
- (xiv) *For proper baseline air quality assessment, Wind rose pattern in the area should be reviewed and accordingly location of AAMSQ shall be planned by the collection of air quality data by adequate monitoring stations in the downwind areas. Monitoring location for collecting baseline data should cover overall the 10 km buffer zone i.e. dispersed in 10 km buffer area.*
- (xv) *Project proponent to prepare Environmental Cost Benefit Analysis for the project in EIA/EMP Report.*
- (xvi) *Impact of proposed project/activity on hydrological regime of the area shall be assessed and report be submitted. Hydrological studies as per GEC 2015 guidelines to be prepared and submitted*
- (xvii) *Heavy metals including other parameters in surface water quality shall be analyzed and provided in EIA Report Sulphur content.*
- (xviii) *The parameters Arsenic, Lead and Silica shall also be analyzed in ambient air quality.*

Agenda No. 30.7

Chandragupta Open Cast Coal mine for production capacity of 15 / 20 MTPA (Normative/Peak) in mine lease area of 1495 Ha by M/s Central Coalfield Ltd located at Village Badhaikhap, Bukru, Chatti-Bariyatu, Jordag, Nawakhap, Pachra/Pachanda, Peto, Sijhua in District Hazaribagh and Village Ursu in District Chatra (Jharkhand)-For Amendment in Terms of Reference – reg.

[Online Proposal No. IA/JH/CMIN/272146/2022; F No. IA-J-11015/43/2021-IA- II(M)]

30.7.1 The proposal is for Amendment in Terms of Reference Chandragupta Open Cast Coal mine for production capacity of 15 / 20 MTPA (Normative/Peak) in mine lease area of 1495 Ha by M/s Central Coalfield Ltd located at Village Badhaikhap, Bukru, Chatti-Bariyatu, Jordag, Nawakhap, Pachra/Pachanda, Peto, Sijhua in District Hazaribagh and Village Ursu in District Chatra (Jharkhand)

Earlier Terms of Reference to this project was granted on 13.09.2021. Now PP is requesting to amend the TOR for changing the conditions relating to no diversion of river/streams, no-essential infrastructure on forest land and implementing the in-pit belt conveyor system.

30.7.2 The EAC during deliberations noted the following:

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

Sr. No	Reference (Specific conditions)	Description as per approved ToR	Amendment Sought For
1	i	No diversion of river or stream	Diversion of Chotki river is required
2	ii	Non-essential infrastructure on forest land	Forest land requirement for infrastructure is 31.06 ha
3	xi	In-pit conveyor with Silo loading proposed	Coal transportation will be through belt conveyor

30.7.3 *The committee on the above points was of the view that these conditions have been prescribed after proper examination of proposal. However, at the request of PP, the committee deliberated the conditions. Regarding, diversion of Chotki Jhor stream, PP simply informed that it would entail the revision of Mining plan which may delay the procedural step. EAC noted that this TOR was granted in September 2021 and during gap of 9 months, PP could have modified mine plan. EAC desires that protection of streams/nala is important to protect the riverine system and maintenance of flow in the catchment area. However, as per the deliberation it revealed that no diversion of these stream shall take place for at least 10 years and meanwhile detailed study for diversion with respect to stage wise coal excavation shall be provided in EIA/EMP report. However, at present no need to change the condition.*

PP is ready to install Inpit conveyor belt with silo loading for transportation of coal till railway siding in place. EAC opined that this condition should retain and subjected to operation of mine and further use of pucca haul road condition is already available in existing ToR vide no. xxv within the mine lease, which is subjected to inpit belt conveyor system. In case of forest land for infrastructure is concerned, the EAC opined the PP and consultant to come up with all the alternatives scientific analysis with revision of mine plan with its comparative study. The EAC, after deliberations observed that the PP could not able to justify the proposed amendment in ToR and it's a primitive attempt without firm ground. Finally, EAC opined that PP must modify the mine plan to the prescription of TOR conditions for changes occurring for protection of environment.

*In view of above observation, EAC **returned the application in present form***

Agenda No. 30.8

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

[Online Proposal No. IA/MP/CMIN/213721/2021; F No. J-11015/280/2010-IA-II(M)]

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

30.8.2 The EAC during deliberations noted the following:

- Earlier, the project was granted Terms of Reference by MoEFCC vide letter no. J-11015/280/2010-IA-II (M) dated 07.07.2021 and amendment of TOR on 16.12.2021.

Now, PP is requesting again the amendment for the change of title in terms of mentioning the 2 districts as project as per the location as it includes two district Shahdol and Umaria of Madhya Pradesh

30.8.3 *The EAC, after deliberations found that the project is located in two district as pointed out by MPPCB and; accordingly recommended the Amendment in Terms of Reference of project title “ Sahapur East Underground Coal Mine Project of 0.70 MTPA in mine lease area of 659 Ha by M/s Chowgule and Company Private Limited located at villages Chunia, Senduri, Kathotiya, Khamaria, Kholhar Sohagpur and Pali Tehsil Shadol, District Umaria, Madhya Pradesh ” with the title/ name of the project as **Sahapur East Underground Coal Mine Project of 0.70 MTPA Coal Production by Underground Semi Mechanized Method in Mine Lease Area Of 659 Ha located at Villages Chunia, Senduri, Kathotia, Khamaria Kala, Kholhar in Tehsil Sohagpur of District Shahdol and Village Khamariya Khurd in Tehsil Pali, of District Umaria (Madhya pradesh), as per the provisions of EIA Notification, 2006 and its amendments therein with following additional specific conditions to be followed:***

- *The public consultation, including public hearing, shall be conducted through concerned SPCB in both the districts (**Shahdol & Umaria**) of M.P. as per the provisions/procedure contained in the EIA Notification, 2006 for information of the stakeholders about the present coal mining operations inviting comments and their redressal. Also the issue raised in public hearing should be addressed with time bound action plan and budgetary provision in EIA/EMP report.*

Annexure-I

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

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

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

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

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

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

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

- (iv) Monitoring of water quality upstream and downstream of water bodies shall be carried out once in six months and record of monitoring data shall be maintained and submitted to the Ministry of Environment, Forest and Climate Change/Regional Office.
- (v) Ground water, excluding mine water, shall not be used for mining operations. Rainwater harvesting shall be implemented for conservation and augmentation of ground water resources.
- (vi) Catch and/or garland drains and siltation ponds in adequate numbers and appropriate size shall be constructed around the mine working, coal heaps & OB dumps to prevent run off of water and flow of sediments directly into the river and water bodies. Further, dump material shall be properly consolidated/compacted and accumulation of water over dumps shall be avoided by providing adequate channels for flow of silt into the drains. The drains/ponds so constructed shall be regularly de-silted particularly before onset of monsoon and maintained properly. Sump capacity should provide adequate retention period to allow proper settling of silt material. The water so collected in the sump shall be utilised for dust suppression and green belt development and other industrial use. Dimension of the retaining wall constructed, if any, at the toe of the OB dumps within the mine to check run-off and siltation should be based on the rainfall data. The plantation of native species to be made between toe of the dump and adjacent field/habitation/water bodies.
- (vii) Adequate groundwater recharge measures shall be taken up for augmentation of ground water. The project authorities shall meet water requirement of nearby village(s) after due treatment conforming to the specific requirement(standards).
- (viii) Industrial waste water generated from CHP, workshop and other waste water, shall be properly collected and treated so as to conform to the standards prescribed under the standards prescribed under Water Act 1974 and Environment (Protection) Act, 1986 and the Rules made there under, and as amended from time to time. Adequate ETP /STP needs to be provided.
- (ix) The water pumped out from the mine, after siltation, shall be utilized for industrial purpose. 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 surfacewater 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 5km. A riverine/riparian ecosystem conservation and management plan should be prepared and implemented in consultation with the irrigation / water resource department in the state government.

(d) Noise and Vibration monitoring and prevention

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

(e) Mining Plan

- (i) Mining shall be carried out under strict adherence to provisions of the Mines Act 1952 and subordinate legislations made there-under as applicable.
- (ii) Mining shall be carried out as per the approved mining plan (including Mine Closure Plan) abiding by mining laws related to coal mining and the relevant circulars issued by Directorate General Mines Safety (DGMS).
- (iii) No mining shall be carried out in forest land without obtaining Forestry Clearance as per Forest (Conservation) Act, 1980.
 - (ii) Efforts should be made to reduce energy and fuel consumption by conservation, efficiency improvements and use of renewable energy.

(f) Land reclamation

- (i) Digital Survey of entire lease hold area/core zone using Satellite Remote

Sensing survey shall be carried out at least once in three years for monitoring land use pattern and report in 1:50,000 scale or as notified by Ministry of Environment, Forest and Climate Change (MOEFCC) from time to time shall be submitted to MOEFCC/Regional Office (RO).

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

(g) Green Belt

- (i) The project proponent shall take all precautionary measures during mining operation for conservation and protection of endangered/endemic flora/fauna, if any, spotted/reported in the study area. The Action plan in this regard, if any, shall be prepared and implemented in consultation with the State Forest and Wildlife Department.
 - (ii) Greenbelt consisting of 3-tier plantation of width not less than 7.5 m shall be developed all along the mine lease area as soon as possible. The green belt comprising a mix of native species (endemic species should be given priority) shall be developed all along the major approach/ coal transportation roads.
- (h) Public hearing and Human health issues**
- (i) Adequate illumination shall be ensured in all mine locations (as per DGMS standards) and monitored weekly. The report on the same shall be submitted to this ministry & its RO on six-monthly basis.
 - (ii) The project proponent shall undertake occupational health survey for initial and periodical medical examination of the personnel engaged in the project and maintain records accordingly as per the provisions of the Mines Rules, 1955 and DGMS circulars. Besides regular periodic health check-up, 20% of the personnel identified from workforce engaged in active mining operations shall be subjected to health check-up for occupational diseases and hearing impairment, if any, as amended time to time.
 - (iii) Personnel (including outsourced employees) working in core zone shall wear protective respiratory devices and shall also be provided with adequate training and information on safety and health aspects.
 - (iv) Implementation of the action plan on the issues raised during the public hearing shall be ensured. The project proponent shall undertake all the tasks/measures as per the action plan submitted with budgetary provisions during the public hearing. Land oustees shall be compensated as per the norms laid down in the R&R policy of the company/State Government/Central Government, as applicable.
 - (v) The project proponent shall follow the mitigation measures provided in this Ministry's OM No.Z-11013/5712014-IA.II (M) dated 29th October, 2014, titled 'Impact of mining activities on habitations-issues related to the mining projects wherein habitations and villages are the part of mine lease areas or habitations and villages are surrounded by the mine lease area'.
- (i) Corporate Environment Responsibility**
- (i) The project proponent shall comply with the provisions contained in this Ministry's OM vide F.No.22-65/2017-IA.III dated 1st May 2018, as applicable, regarding Corporate Environment Responsibility.
 - (ii) The company shall have a well laid down environmental policy duly approved by the Board of Directors. The environmental policy should prescribe for standard operating procedures to have proper checks and balances and to

bring into focus any infringements/deviation/violation of the environmental/forest/wildlife norms/conditions. The company shall have defined system of reporting infringements/deviation/violation of the environmental/forest/wildlife norms/conditions and/or shareholders/stake holders.

- (iii) A separate Environmental Cell both at the project and company head quarter level, with qualified personnel shall be set up under the control of senior Executive, who will directly to the head of the organization.
- (iv) Action plan for implementing EMP and environmental conditions along with responsibility matrix of the company shall be prepared and shall be duly approved by competent authority. The year wise funds earmarked for environmental protection measures shall be kept in separate account and not to be diverted for any other purpose. Year wise progress of implementation of action plan shall be reported to the Ministry/Regional Office along with the Six Monthly Compliance Report.
- (v) Self-environmental audit shall be conducted annually. Every three years third party environmental audit shall be carried out.

(j) Miscellaneous

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

Annexure-II

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

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

I. Statutory compliance:

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

II. Air quality monitoring and preservation

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

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

SPCB

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

III. Water quality monitoring and preservation

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

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

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

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

IV. Noise and Vibration monitoring and prevention

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

V. Mining Plan

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

conservation, efficiency improvements and use of renewable energy.

VI. Land reclamation

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

VII. Green Belt

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

prepared and implemented in consultation with the State Forest and Wildlife

Department.

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

VIII. Public hearing and Human health issues

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

IX. Corporate Environment Responsibility

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

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

X. Miscellaneous

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

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

Standard EC Conditions for Coal Washery Project

I. Statutory compliance:

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

II. Air quality monitoring and preservation

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

environmentally and ecologically sensitive targets in consultation with the

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

III. Water quality monitoring and preservation

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

time to time by the Central Pollution Control Board.

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

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

IV. Noise and Vibration monitoring and prevention

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

V. Coal beneficiation

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

VI. Green Belt

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

VII. Public hearing and Human health issues

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

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

VIII. Corporate Environment Responsibility

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

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

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

IX. Miscellaneous

- i. The project proponent shall make public the environmental clearance granted for their project along with the environmental conditions and safeguards at their cost by prominently advertising it at least in two local newspapers of the District or State, of which one shall be in the vernacular language within seven days and in addition this shall also be displayed in the project proponent's website permanently.
- ii. The copies of the environmental clearance shall be submitted by the project proponents to the Heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt.
- iii. The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and update the same on half-yearly basis.
- iv. The project proponent shall monitor the criteria pollutants level namely; PM10, SO₂, NO_x (ambient levels) or critical sectoral parameters, indicated for the projects and display the same at a convenient location for disclosure to the public and put on the website of the company.
- v. The project proponent shall submit six-monthly reports on the status of the compliance of the stipulated environmental conditions on the website of the ministry of Environment, Forest and Climate Change at environment clearance portal.
- vi. The project proponent shall submit the environmental statement for each financial year in form-V to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently and put on the website of the company.
- vii. The project authorities shall inform to the Regional Office of the MOEFCC regarding commencement of mining operations.
- viii. The project authorities must strictly adhere to the stipulations made by the State Pollution Control Board and the State Government.
- ix. The project proponent shall abide by all the commitments and recommendations made in the EIA/EMP report, commitment made during Public Hearing and also that during their presentation to the Expert Appraisal Committee.
- x. No change in coal beneficiation process and scope of work shall be made without obtaining prior approval of the Ministry of Environment, Forests and Climate Change (MoEFCC) with such conditions mentioned therein. No change in

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

ANNEXURE-IV

Generic ToR for coal washery

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

may be justified besides obtaining approval of the

Competent Authority for its drawl.

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

by the Board of Directors.

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

ANNEXURE-V

GENERIC TOR FOR AN OPENCAST COALMINE PROJECT for EC

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

undisturbed along with any natural drainage adjoining the lease /project areas, and modification of thereof in terms of construction of embankments/bunds, proposed diversion/re-channeling of the water courses, etc., approach roads, major haul roads, etc should be indicated.

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

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

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

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

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

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

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

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

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

* As a representative example

Table 2 : Stage Wise Cumulative Plantation

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

* As a representative example

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

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

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

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

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

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

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

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

(xxxix) Details of R&R. Detailed project specific R&R Plan with data on the existing socio- economic status of the population (including tribals, SC/ST, BPL families) found in the study area and broad plan for resettlement of the displaced population, site for the resettlement colony, alternate livelihood

concerns/employment for the displaced people, civic and housing amenities being offered, etc and costs along with the schedule of the implementation of the R&R Plan should be given.

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

(xxxix) Corporate Environment Responsibility:

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

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

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

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

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

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

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

TOTAL ML/PROJECT AREA (ha)	TOTAL FORESTLAND AND (ha)	Date of FC	Extent of forestland	Balance area for which FC is yet to be obtained	Status of appl for diversion of forest land

		If more than, provide details of each FC			
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GENERIC TORs FOR AN UNDERGROUND COAL MINE PROJECT

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

embankments/bunds, proposed diversion/re-channelling of the water courses, etc., approach roads, major haul roads, etc should be indicated.

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

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

Area under Surface Rights

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

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

expansion projects.

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

fugitive emissions should be provided. Impacts of transportation, handling, transfer of mineral and waste on air quality, generation of effluents from workshop etc, management plan for maintenance of HEMM and other machinery/equipment should be given. Details of various facilities such as rest areas and canteen for workers and effluents/pollution load emanating from these activities should also be provided.

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

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

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

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

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 30th MEETING OF HELD
DURING 20th May THROUGH VIDEO CONFERENCING**

1.	Shri G.P Kundargi			DAY
		-	Chairman	A
2.	Dr. N. P. Shukla	-	Member	A
3.	Shri Suramya Dolarray Vora, IFS (Retd)	-	Member (Acting Chairman)	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	A
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