

## MINUTES OF 5<sup>th</sup> MEETING OF THE EXPERT APPRAISAL COMMITTEE FOR ENVIRONMENT APPRAISAL OF COAL MINING PROJECTS HELD ON 21<sup>st</sup> & 22<sup>nd</sup> DECEMBER 2023 THROUGH VIDEO CONFERENCE.

Confirmation of the Minutes of 4<sup>th</sup> Meeting of the EAC (Coal): The minutes of the 4<sup>th</sup> Meeting of the EAC (Coal) held during 7<sup>th</sup> (Afternoon) & 8<sup>th</sup> December 2023 has been 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 5<sup>th</sup> meeting of the Expert Appraisal Committee (EAC) for coal mining projects was held on 21<sup>st</sup> & 22<sup>nd</sup> December 2023 through Video Conferencing. The EAC considered proposals as per agenda adopted for the meeting incorporated for discussion with chair. List of participant attended the meeting is annexed. The details of deliberations held & decisions taken in the meeting are as under.

### **Agenda No. 5.1**

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

**[Online Proposal No. IA/GJ/CMIN/418042/2023; File No. J-11015/234/2006-IA. II(M)]**

**5.1.1** The proposal is for Environmental Clearance for Surkha (North) Lignite Mining for enhancement in production capacity from 3 to 5 MTPA in mine lease area of 3672 Ha (Including already existing Pyrite Plant with 3 MTPA of capacity in Same MLA) by M/s Gujarat Mineral Development Corporation Limited located in Village Tagdi malpar, Holdad, Thordi, Rampur, Bhuteshwar, Ratnapur, Koliyak, Ghogha and Surkha, Taluka Ghogha, District Bhavnagar (Gujarat).

**5.1.2** Earlier the proposal was considered in the 41<sup>st</sup> EAC meeting held on 13-14 March, 2023 wherein the committee deferred the proposal and asked to submit the observation. The PP has submitted the reply on Parivesh portal dated 4<sup>th</sup> December, 2023 as mentioned below:

S.No.	Observation of EAC	Reply by PP
1.	The PP shall submit the certified compliance report of modification of EC letter 18.05.2012.	CCR vide J-11/92-2022-IROG NR dated 20.12.2022 (including modification of EC letter 18.05.2012) was submitted to EAC along with reply of ADS on 17.02.2023. Copy of CCR report is enclosed.  <b><u>Summary of CCR</u></b>

		<p>“Out of total 42 conditions, it may be seen that 35 are complied, 4 are agreed to comply by the project proponent and 3 conditions are noted by the unit. These have been explained in the foregoing compliance report against each of the conditions, and the project proponent needs to take necessary and time bound action for early compliance in respect of the relevant conditions”</p> <p><b>General observations:</b></p> <ul style="list-style-type: none"> <li>• <b>No major non-compliance has been observed during site inspection</b></li> <li>• The dust suppression measures must be strengthened. (No. of tankers increased from 2 to 4 &amp; so also the frequency)</li> <li>• Workshop area should be managed properly and green belt should be developed in the area. (Housekeeping is improved &amp; plantation has been done)</li> </ul> <p><b><u>Action taken Report of CCR</u></b></p> <p>Action taken report given as general observations only in the CCR was submitted to IRO vide GMDC/BVN/21/2023-24 dated 08.04.2023</p>																											
2.	PP shall give the time bound plan and immediately start construction of Toe wall at the bottom of the dump. The seepage of dump water to be restricted to garland drain and also shall provide one layer of plantation along with Toe wall.	<table border="1"> <thead> <tr> <th>Sr. No.</th> <th>Activity</th> <th>Status</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Dump bottom survey</td> <td>Completed, 2000 m length for Toe wall decided</td> </tr> <tr> <td>2</td> <td>Proposal for design as well as consultancy for Retaining/Toe wall</td> <td>Completed</td> </tr> <tr> <td>3</td> <td>Work order for design as well as consultancy for Retaining/Toe wall</td> <td>WO issued to Gujarat Industrial and Technical Consultancy organization Ltd. (GITCO) &amp; enclosed.</td> </tr> <tr> <td>4</td> <td>Site visit by GITCO for site data collection</td> <td>Completed</td> </tr> <tr> <td>5</td> <td>Budgetary estimate</td> <td>Completed, Rs.10 crore</td> </tr> <tr> <td>6</td> <td>Detailed design work</td> <td>10.01.2024</td> </tr> <tr> <td>7</td> <td>Work to be start by</td> <td>10.02.2024</td> </tr> <tr> <td>8.</td> <td>Completion of work</td> <td>31.05.2024 (Approx.)</td> </tr> </tbody> </table>	Sr. No.	Activity	Status	1	Dump bottom survey	Completed, 2000 m length for Toe wall decided	2	Proposal for design as well as consultancy for Retaining/Toe wall	Completed	3	Work order for design as well as consultancy for Retaining/Toe wall	WO issued to Gujarat Industrial and Technical Consultancy organization Ltd. (GITCO) & enclosed.	4	Site visit by GITCO for site data collection	Completed	5	Budgetary estimate	Completed, Rs.10 crore	6	Detailed design work	10.01.2024	7	Work to be start by	10.02.2024	8.	Completion of work	31.05.2024 (Approx.)
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3.	PP shall submit the reserves available below the proposed	<ul style="list-style-type: none"> <li>• It is submitted that out of the total lignite reserve of 73.51 MT, 58.1 MT is remaining at present which is to be mined out.</li> </ul>																											

	stretch of Nallah to be diverted. The reserves should be certified by any of Government agency	<ul style="list-style-type: none"> <li>• The estimated reserves beneath the nallahs are approximately 44.25 Million Tonnes of lignite.</li> <li>• Only 13.85 Million Tonnes of lignite can be extracted safely in accordance with DGMS guidelines without diversion of Nallahs.</li> <li>• The report is prepared and self-certified by GMDC (Govt. of Gujarat Enterprise) based on the mining plan already approved by Ministry of Coal (MOC).</li> <li>• The report &amp; the Map depicting location of Nallas and lignite deposit is attached as enclosed.</li> </ul>
4.	PP shall also submit the certified reserves available below the agriculture field.	<ul style="list-style-type: none"> <li>• 1014.88 Ha is total proposed Agriculture Land falling in the excavation area; around 370.90 Ha has been mined out till date and the remaining 643.98 Ha agriculture land has about 58.10 Million Tons of Lignite reserve (including Nala).</li> <li>• The report is prepared and self-certified by GMDC (Govt. of Gujarat Enterprise) based on the mining plan already approved by Ministry of Coal (MOC).</li> <li>• The reports with the details of Reserve below the agriculture field are attached as enclosed.</li> </ul>
5.	PP shall explore the possibility of step farming/ terrace farming on the dump site and submit an action plan to convert OB dump into agriculture field with drip irrigation facility	<ul style="list-style-type: none"> <li>• As per the mining plan approved by Ministry of Coal, out of 992 Ha reclaimed land, 792 Ha land will be developed as Agriculture Field and 200 Ha land will be developed as Fruit Farm (Orchard).</li> <li>• Apart from the above, as advised, the services of the Junagadh Agriculture University are hired to access the step/terrace farming and the possibility of conversion of reclaimed land into agriculture fields. The copy of the preliminary report is enclosed.</li> <li>• Prima facie, the report shows that step farming/terrace farming on the dump site appears to be difficult and the detailed study (with experiment) will be required for the possibility of step farming/terrace farming on the dump site. The same will be implemented, if found successful.</li> </ul>
6.	The PP shall submit the details of overall area which can be converted into agricultural field (as of now) and during mine closure. The plan of action with timeline shall be submitted with drip irrigation facility and the possibility of	<ul style="list-style-type: none"> <li>• As per the mining plan approved by Ministry of Coal, out of 1014.88 Ha mined out land, 992 Ha land will be converted into Agriculture Land (792 Ha) &amp; Fruit Orchard (20 Ha), <b>which will be started from 6<sup>th</sup> year onwards.</b></li> <li>• The details of Agriculture fields, Fruit Orchard and fund allocated for mine closure activities with Timeline are presented in next few slides:</li> </ul>

	step farming/ terrace farming on the dump site.											
7.	PP shall appropriately justify the reason of diversion streams based on technical analysis and on cost-benefit analysis. Along with phasing and timeline of diversions nallah/stream wise. Plan should include the protection of catchment area.	<p>Diversion of nallas was envisaged in the approved Mine Plan and approved EC vide no. J-11015/234/2006-IA (M) dated 07 May 2007 for existing capacity of 3 Million TPA lignite. Without the diversion of these nallas, mining was not feasible in accordance with the DGMS guidelines. Entry &amp; exit points are kept same for protection of catchment available Qty. of Lignite without diversion of nallas is about 13.85 Million Tonnes which is worth of Rs. 5276 Crores only. Phasing &amp; tentative timeline for diversion of Nala is as below:</p> <table border="1"> <thead> <tr> <th>Nala No.</th> <th>Tentative diversion timeline</th> </tr> </thead> <tbody> <tr> <td><b>N1</b></td> <td>Completed</td> </tr> <tr> <td><b>N2</b></td> <td>Completed</td> </tr> <tr> <td><b>N3 Temporary N3 Permeants</b></td> <td>Completed 2028</td> </tr> <tr> <td><b>N4 Temporary N4 Permanent</b></td> <td>2027 2035</td> </tr> </tbody> </table> <p>✓ The total reserve currently available for mining is 58.10 Million Tons worth 22132.5 Crores, in case of diversion of nallas.</p> <p>✓ Loss of Lignite and Revenue in case of not diverting the nallas is about 44.25 Million Tones, costing of Rs. 16856.5 Crores.</p> <p><b>Protection of Catchment area:</b></p> <p>✓ Only a part of the nallas is proposed to be re-routed</p> <p>✓ Re-routed part of the nallas will be ended in the same nallas path on the downstream side, so as to maintain the catchment area. Details of the catchment area and development of check dams in the catchment of the Nallas are shown on the google image.</p>	Nala No.	Tentative diversion timeline	<b>N1</b>	Completed	<b>N2</b>	Completed	<b>N3 Temporary N3 Permeants</b>	Completed 2028	<b>N4 Temporary N4 Permanent</b>	2027 2035
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8.	PP shall submit detail plan upon the water harvesting facility.	<p>GMDC has planned to develop Six ponds are at different locations covering an area of 176 Ha. (Section 11.7.4 – Page 177 of Approved Mine Plan). Around 1.64 Lakh M3 of deepening works at the cost of Rs. 137.92 Lakhs has been carried out for Water conservation &amp; Water Harvesting in core Zone and nearby villages. Check dams are also developed in nearby villages.</p> <p>Detailed plan of water harvesting measures / facility is enclosed, Locations are marked on Final mine closure plan.</p>										
9.	The PP shall submit the cost benefit analysis for	<ul style="list-style-type: none"> <li>The services of the Junagadh Agriculture University (JAU) are hired to access the cost benefit analysis for conversion of green</li> </ul>										

	conversion of green agriculture field into the Mine lease area with respect to the extracted minerals.	<p>agriculture field into the Mine lease area with respect to the extracted minerals.</p> <ul style="list-style-type: none"> <li>• Cost benefit analysis: Benefit to the farmers if land is retained and cultivated till year 2039 will be Rs. 62.39 Crore. <ul style="list-style-type: none"> <li>▪ Benefit to the farmer if land is sold (with returns of year 2039) will be Rs. 774.47 crore.</li> <li>▪ The remaining 643.98 Ha agriculture land (including nala) has about 58.10 Million Tonnes of Lignite reserve worth Rs. 18807 crores (@ Rs.3237/tonne average).</li> </ul> </li> </ul>																									
10.	The PP shall submit the plan for the development and protection of surface water body with the identified location through rainwater harvesting, check dams and any other possibilities.	For the development and protection of surface water body with the identified locations (nearby villages) is being carried out through rainwater harvesting through development of ponds and construction of check dams.																									
11.	PP shall submit the effect of mining operation on the salinity of ground water and its mitigation measures, if any.	<p>There is a great deal of variability in groundwater availability. A lithological study by CMRI (2005) has reported it to be at a depth of 40-50 Mts. It is, therefore identified as a water deficient area. The strata after this depth are mainly impervious to semipervious. The table below reflects salinity ingress at 40 mts. by the sea, not by mining. The district administration has built a bund along the sea-coast to check salinity ingress from the sea. Therefore, lignite mining does not affect groundwater salinity much (CMRI, 2005).</p> <table border="1"> <thead> <tr> <th>S.N.</th> <th>Depth in m</th> <th>Lithology</th> <th>Characteristic of apparent resistivity value Ohm m</th> <th>Remarks</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>5</td> <td>Clayey soil</td> <td>5-8</td> <td>Black cotton soil</td> </tr> <tr> <td>2</td> <td>10-30</td> <td>Clay formation</td> <td>30-45</td> <td>Impermeable</td> </tr> <tr> <td>3</td> <td>40</td> <td>Porous soil</td> <td>0.2-0.5</td> <td>Salinity ingress</td> </tr> <tr> <td>4</td> <td>50-80</td> <td>Semi-porous soil</td> <td>0.2-15</td> <td>A mixture of saline &amp; sweet water</td> </tr> </tbody> </table>	S.N.	Depth in m	Lithology	Characteristic of apparent resistivity value Ohm m	Remarks	1	5	Clayey soil	5-8	Black cotton soil	2	10-30	Clay formation	30-45	Impermeable	3	40	Porous soil	0.2-0.5	Salinity ingress	4	50-80	Semi-porous soil	0.2-15	A mixture of saline & sweet water
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		5	90-110	Clay formation	40-50	Impermeable
		6	120-150	Hard rock	250-400	Massive Basalt
		<b>S.N.</b>	<b>Depth in m</b>	<b>Lithology</b>	<b>Characteristic of apparent resistivity value Ohm m</b>	<b>Remarks</b>
		1	50	Semi porous soil	0.2-12	Mixed nature of sweet and saline water
		2	60-140	Clay formation	40-55	Impermeable
		3	150	Weathered rock	110-120	Trap
		<ul style="list-style-type: none"> <li>✓ With regard to the salinity of the ground water it is submitted that samples were collected at 9 ground water locations as baseline study and included in EIA report in table 3.21.</li> <li>✓ Map of the ground water monitoring stations is attached and the details of the distance of all the 9 GW stations (GW1 to GW9) from the sea coast is given.</li> <li>✓ As per the study by CIMFR, the TDS were observed in the range of 338.82 Mg/L (Station no: GW 1) to 3891.76 Mg/L (Station no: 8), which is at a distance of around 6.1 Km from the sea coast), which shows that there is no adverse effect of mining operation on the salinity of ground water.</li> <li>✓ We have already taken steps for rainwater harvesting in the surrounding area and will also continue. Therefore, no adverse impact of mining operation on the salinity of ground water is envisaged.</li> </ul>				
12.	The PP shall submit the mine closure activity plan along with plan to reclaim complete mine lease area into agriculture filed. PP shall also provide any closing activity to be started within 2 years.	<ul style="list-style-type: none"> <li>• The mine closure plan is approved by Ministry of Coal in the year 2016 which has been submitted to the MOEFCC along with the EC Appraisal Application.</li> <li>• Regarding reclamation of mine lease area, total 1014.88 Ha area will be utilized for excavation of lignite, out of which around 992 Ha area (Around 98%) will be reclaimed by Agriculture Land and Orchard.</li> <li>• Progressive Mine Closure Activity as per the approved mine plan is attached (Mine Plan Table no. 11.8 – Page 181-182).</li> </ul>				

		Mine closure activity / drawing are enclosed
13.	The PP shall submit the status of expenditure from the budget of Public Hearing, which has been already spent and status of the budget to be spent in future.	INR 5.61 Crores were incurred against the allocated amount of INR 1.51 Cr for the compliance of issues raised in public hearing during F.Y. 2022-23. INR 4.26 Crores are allocated for F.Y. 2023-24 and INR 0.51 Crore has been incurred till date.  The details are provided at Annexure-17 of note.
14.	The PP shall submit the plan for active dump of 294 ha to be converted into agriculture field.	Already enclosed under reply of ADS Point no. 5.
15.	The PP shall submit the coal evacuation plan through drone video.	Drone Survey for The Lignite Evacuation Plan has been done and enclosed.

**5.1.3** The EAC after deliberations noted the followings:

- i. Standard Terms of Reference granted vide letter no. IA-J-11015/234/2006-IA-II(M) dated 9<sup>th</sup> August, 2019.
- ii. Public hearing for the project of 5 Million TPA capacity in an area of 3672 ha was conducted on 11/03/2022 at M/s. Gujarat Mineral Development Corporation Ltd. Surkha (N) Lignite Mine Project, Near Administrative Office of GMDC' Village Tagdi, Post Malpar, Tahsil Ghogha, District Bhavnagar (Gujarat) under the Chairmanship of Additional District Magistrate. An advertisement in English was published in English in "Times of India" and in Gujarati in "Sandesh" dated 04.02.2022.
- iii. Total mining lease area as per block allotment is 3672 ha. Mining Plan (Including Progressive Mine Closure Plan) has been approved by MOC vide F. No. 48024/1/2000- Lignite/CA-I dated 9<sup>th</sup> May, 2016 for the lignite production capacity of 5 MTPA in existing ML area of 3672 ha.
- iv. The PP has submitted the CCR vide dated 20.12.2022 for EC letter no. J-11015/234/2006-IA. II(M) dated 07.05.2007 and for EC modification letter no. J-11015/234/2006-IA. II (M) dated 18.05.2012 from the IRO, Gandhinagar.
- v. PP has submitted EMP cost for 319.05 ha including capital & recurring cost for 5 years are as follows:

S. No.	Description	Item	Recurring cost for 5 years (in Lakhs)	Description	Capital cost for 5 years (in Lakhs)
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1	Air Pollution/ Occupational health & safety	Nose masks	0.5	Dust suppression	200.3
		Safety shoes	1.0		
		Ear Plugs	0.10		
		Helmets	0.40		
		Hand gloves	0.10		
		Medical check ups	3.0		
		Water utility for dust suppression	2.0		
		Others (COVID control measures)	2.0		
2	Water & Soil erosion	Construction of garland drains& retaining walls &gabions& others	20.0	Water quality & management	2.81
		De-silting operations	2.0		
		Water harvesting pits	4.0		
3	Noise pollution	Maintenance of Machinery	4.0	Air, water and noise quality monitoring	21.08
4	Biological & Socio- economic aspect	Greenbelt development & maintenance	5.0	Greenbelt development	5.0
		Water Supply to nearby villagers	5.0		
5	Environment data generation and EMP preparation, etc.	Provision of environmental monitoring equipment“s like Particulate Analyzer, Noise Meter and Water Quality Analyzer	17.76	Reclamation	23.0
<b>Total</b>			<b>66.86</b>		<b>252.19</b>
<b>Grand Total</b>					<b>319.05</b>

vi. PP has submitted the following Public Hearing budget as follows:

Fund allocation for Public Hearing issues compliance					
YEAR	2022-23		2023-24	Remarks	
Description	Allocated (Rs. in Lakhs)	Actual Exp. (Rs. In Lakhs)	Proposed (Rs. in Lakhs)	Particular point no. as per public hearing proceeding documents	Timeline



For Land Care to Farmers	6.14	6.14	6.14	1 & 4	March-2024
Plantation/Green Belt Development	61.57	26.82	77.6	1,3 & 6	March-2025
Clearing of Bushes for Villagers	0	0.19	as per requirement	2	Completed
Plantation Maintenance	15.6	10.4	30	6	March-2024
Check dam	0	47.22	as per requirement	6,8	Completed
Protection wall	0	0	30	5	March-2025
Air Pollution Monitoring & Control	4.9	2.86	210	7	March-2025
RO Plant for Mine Water Treatment	0	380	0	2,7,8	Completed
Land Acquisition	13281	0	13281	9, 19	March-2025
CSR Expenses for Education/ Sports etc.	57.33	57.33	60	10 & 11	March-2025
CSR Expense for Stationary/ Cupboards etc.	2.84	2.84	3	11	March-2024
Water Conservation	0	25.27	as per requirement	8	Completed
Water Monitoring and Analysis	3.3	2.65	5	14	March-2024
Peacock Conservation Plan	0	0	5	Written representation from Village Development Jagruti Abhiyan	March-2025
<b>TOTAL</b>	<b>13432.68</b>	561.72	13707.74		

**5.1.4** *The EAC after deliberations noted that the instant project is for expansion of Lignite mine, wherein occurrence of pyrite exists in combination with Lignite Ore. Public Hearing for the instant project was conducted after obtaining Standard ToR for Surkha (North) Lignite Mine. It was noted that separate EC for pyrite plant has been obtained by PP.*

*While discussing the proposal of streams diversion & their rerouting, the Committee emphasized to implement their protection plan in stringent manner as these are flowing through the ML area (namely N1, N2, N3 and N4) and no diversion shall be allowed for the next 15 years from the commencement of Mining operations. PP shall ensure that the natural flow would not be affected and adequate monitoring for quantity and quality at u/s and d/s of streams shall be done. The Committee*

also reviewed the Certified Compliance Report of previous EC and asked the PP to complete the some of non-complied conditions such as construction of retaining wall, rain water harvesting/storage ponds in time-bound manner i.e before March, 2024. The Committee also emphasised for plantation in safety zone

Based on the above, EAC **recommended** the proposal for grant of Environmental Clearance for expansion of Surkha (North) Lignite Mining for enhancement in production capacity from 3 to 5 MTPA in mine lease area of 3672 Ha (Including already existing Pyrite Plant with 3 MTPA of capacity in Same MLA) by M/s Gujarat Mineral Development Corporation Limited located in village Tagdi malpar, Holdad, Thordi, Rampur, Bhuteshwar, Ratnapur, Koliyak, Ghogha and Surkha, Taluka Ghogha, District Bhavnagar (Gujarat) under provisions of EIA Notification, 2006 and its amendments therein with following additional specific conditions to be followed:

**Specific condition: -**

- i. PP shall obtain CTE/CTO from State Pollution Control Board for 5 MTPA production capacities for Lignite mine (as well CTO for Pyrite plant with capacity of 3 MTPA).
- ii. PP should complete the construction of retaining wall around the OB bump before March, 2024.
- iii. PP should not divert any stream/nallah passing through the ML area before 2039. Adequate streams protection measures to be taken by constructing embankment all along the river and safety zone to be provided from OB dump. No untreated effluent/mine water shall be entered in to the streams. PP shall ensure the natural flow is not affected with adequate monitoring quantity and quality at u/s and d/s of streams.
- iv. PP shall comply the partial/non-compliance EC conditions highlighted by Ministry's Regional Office and submit its report within six months to IRO.
- v. PP shall use nearest Railway siding for maximum coal transportation and in future coal transportation through road shall be completely stopped. PP shall prevent transportation through forest area and other sensitive locations.
- vi. PP shall install mechanized equipment as much as possible within the mine in order to reduce the dust emission.
- vii. PP shall obtain No Objection Certificate from Central Ground Water Authority for extraction of ground water.
- viii. PP shall monitor regularly water levels in open dug wells located in village and by establishing Piezometer to ascertain the impact of mining over ground water table and to plan mitigative measures to recharge the area.
- ix. PP shall implement the activities-wise proposed budget for Public Hearing Budget (as mentioned in para no. 5.1.3 (vi)) of minutes and Capital cost of Rs. 319.05 Lakh (as EMP cost mentioned in the para no. 5.1.3 (v) of minutes) in time bound manner same has been mentioned in above para 5.1.3 of minutes. The details of annual expenditure incurred shall be part of report to be submitted to IRO, MoEF&CC. PP needs to include the audited figures against the expenditure and activities to be monitored by through dedicated monitoring mechanism. The maintenance of all activities shall be covered through recurring cost of Public Hearing, and continued as a part of CSR budget.

- x. *PP shall develop 6 nos. of rain water harvesting pond (100 m, width will be 10 m and the depth will be 3 m) as proposed by PP near the villages of stated area in consultation with Gram Panchayat within 1 year. Also, Indicator aquatic species shall be planted in this water bodies to see the environmental quality. PP shall own water bodies/pond currently present in project area, maintain and regularly monitor the quality for its long term protection.*
- xi. *PP shall implement Water distribution system in near villages. A proper water pipeline distribution network shall be devised to meet the demands of farmers related to irrigation and recharging of ponds, wherever required. The water treatment plant to meet the requirement with the start of production.*
- xii. *PP shall deposit the approved amount as proposed for wildlife conservation plan to the State Govt. Forest & Environment Dept. and further consult with State Biodiversity Authority for its CSR activity.*
- xiii. *PP shall conduct third party audit of compliance of EC condition at an interval six months and its report shall be submitted to IRO, MoEF&CC.*
- xiv. *The status of mine closure activities must be included in every six months' compliance report submitted to the state pollution control board and IRO.*
- xv. *Sufficient nos. of fog cannons of atleast 40 mtrs throw shall be installed at coal storage yard, in nearby villages and along the transportation route. Main haul road in the mine shall be provided with permanent water sprinklers, and other roads shall be regularly wetted with water tankers fitted with sprinklers. Also PP shall install Mist Cannon Dust Suppression Systems (distance 80-100 mtrs.) at Coal Stock Yard to suppress the dust particles.*
- xvi. *PP shall transport the coal by trucks of fleet size 35-40 tons (Payload) and no village road or sensitive location shall be used for transportation of coal.*
- xvii. *PP shall maintain at least 10 mtrs width tree plantation of broad leaves and wind break/green-shield of about 10 mts height along the boundary of coal storage yard.*
- xviii. *PP to plant additional 100,000 plants with three tier plantation along the transportation route, if not completed, and identified areas with consent to the gram panchayat within two year and plant for remaining within 2 years for their proper growth in additional already committed to plant to plantation in 10 ha of project area.*
- xix. *PP shall implement air pollution mitigation measures near the villages, located at coal storage yard within mine lease area.*
- xx. *PP shall follow the recommendation of subsidence study and monitor the degree of subsidence regularly and shall be submitted to IRO.*
- xxi. *PP shall implement Effluent Treatment Plant for wastewater generated from workshop and Sewage Treatment Plan for its colony. No untreated water shall be discharged from mine boundaries to ponds/nallah/river.*
- xxii. *PP shall deploy atleast 20% of overall fleet of dumpers/trucks as electrical or CNG/LNG based dumpers/trucks for transportation of coal/OB etc.*
- xxiii. *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.*

- xxiv. PP to provide bio toilets to the villages located within the study areas within 1 year from the grant of this EC.
- xxv. Persons of nearby villages shall be given training on livelihood and skill development to make them employable with its proper records.
- xxvi. 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.
- xxvii. PP shall reduce the carbon footprint after sequestration of CO<sub>2</sub>. IRO will review the progress of CO<sub>2</sub> sequestration. The process of sequestration of CO<sub>2</sub> will include the planting trees, by “Developing carbon capture and storage (CCS) technologies” and implementation of renewable energy. Further, PP shall carry out enough plantation to ensure carbon sequestration lost due to deforestation and other fossil fuel based activities.
- xxviii. PP to maintain the transportation road properly to minimize the dust emission. PP to also develop pucca/concrete roads by seeking consent from the panchayat with widening of roads especially roads inter linking the villages within the study area of 10 km radius buffer zone.
- xxix. 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.
- xxx. PP to install 1 continuous ambient air quality monitoring stations at suitable locations preferably village side with consultation of SPCB. The real time data so generated shall be uploaded on company website and linked it with website of CPCB & SPCB. In addition, data should also be displayed digitally at entry and exit gate of mine lease area for public display.
- xxxi. PP must convert OB dump area into grassland area for grazing purpose of local animals.
- xxxii. 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.
- xxxiii. 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. 5.2**

**Expansion of Cluster no. 2 group of mixed mines from 0.45 MTPA to 1.10 MTPA in combined ML Area of 1018 ha of M/s Eastern Coalfield Limited located in Tehsil Nirsa Cum-Chirkunda District Dhanbad (Jharkhand) – Reconsideration for Amendment in Environmental Clearance letter dated 27.05.2021- reg.**

**[Online proposal No. IA/JH/CMIN/295069/2022; File No. J-11015/37/2011-IA-II (M)]**

**5.2.1** The proposal for Amendment in Environmental Clearance dated 27.05.2021 for Cluster no. 2 group of mixed mines from 0.45 MTPA to 1.10 MTPA in combined ML area of 1018 ha of M/s Eastern Coalfield Limited located in Tehsil Nirsa Cum-Chirkunda District Dhanbad (Jharkhand).

**5.2.2** The EAC during deliberations noted the following:

- PP had requested to the Ministry for the following amendment in EC letter dated 27.05.2021:
  - i. Decrease in lease area from 667.00 Ha to 634.00 Ha due to regularization of 33.0 Ha with Barmuri OC.
  - ii. Increase in capacity from 0.5 MTY to 1.0 MTY with increase in leasehold area from 59.00 Ha to 92.00 Ha regularized as per approved MCP.
  - iii. Introduction of Highwall Mining Technology. No change in area and capacity.
- The project proponent has submitted the following justification for the above mentioned amendments:
  - (i) Justification for Production Schedule for next ten years: Total OC capacity as per existing EC is 1.00 MTY and UG capacity is 0.10 MTY. With the proposed amendment, Rajpura & Barmuri OC production will be not more than 1.00 MTY and it will be capped at 1.00 MTY only (except for FY 2023-24) and UG capacity will be capped at 0.10 MTY. However, for the years 2023-24 and 2024-25, there will be proposed Highwall production of 0.25 MTY and 0.33 MTY respectively from Rajpura UG Highwall mining which will be done reducing the OC production from the existing OC capacity of Rajpura OC i.e., 0.50 MTY.
  - (ii) Justification for 1.00 MTY production from Barmuri OC: There is one working quarry. The total area proposed for quarrying is 39.50 Ha out of which 33.00 Ha has already been worked. Two seams, namely, Kalimati (B-II) and Brindabanpur (B-III) have been worked in the existing quarry. However, Kalimati seam is occurring at a depth of 12 – 14 m from the surface in the area remaining to be worked. The thickness of the seam varies from 8 to 14 m (including intermediate mica periodite inclusion). The gradient of the Kalimati seam is 1 in 12. Owing to the given favourable mining conditions, the output from the mine is proposed to be raised from present capacity of 0.50 MTY to 1.0 MTY in the next few years. Together with reserves still available within the existing quarry, there is in total 3.20 MT of reserves available for extraction at a very favourable stripping ratio varying from 1: 1.5 to 1: 2. ECL has been given a production target of 50.0 MT in FY 2022-23 out of which it is expected to reach nearly 38.0 MT. To maximize the production, some mines have been identified which are in a position to produce more owing to prevailing favorable conditions in these mines. Barmuri OC is one of these mines which is in a position to produce upto 1.00 MTY.
  - (iii) Justification for transfer of 33.00 Ha from Kumardhubi UG to Barmuri OC: The area of 33.00 Ha from Kumardhubi UG proposed to be transferred to Barmuri OC is a partially backfilled old abandoned quarry of 24.00 Ha along with an external dump of 9.00 Ha from pre-nationalisation period lying adjacent to Barmuri OC. Since, this 33.00 Ha is OC area

it has been adjusted / included with 59.00 Ha of Barmuri OC taking the total area under OC to 92.00 Ha in line with the approved Mine Closure Plan. Since, there is higher rate of ₹ 9.00 Lakh/Ha (as per WPI of Apr'19) for considering Mine Closure Cost for OC as compared to the UG rate of ₹ 1.50 Lakh/Ha (as per WPI of Apr'19), treating this area under OC would lead to having higher corpus for the Mine Closure. However, it is worth mentioning, the existing and proposed mining operation of Barmuri OC will remain within the existing area of 59.00 Ha and the adjusted 33.00 Ha will not be disturbed by the proposed Barmuri OC. So, the adjustment of 33.00 Ha is meant only for having higher corpus to meet the mine closure activity.

(iv) Justification for introduction of Highwall Mining in Rajpura OC and mine life: Due to the present mining constraints like presence of surface features and acquisition of land, advancement of quarry has become difficult and production is reducing from this mine. At the present scenario, the situation is conducive for Highwall Mining to ramp up the production. Hence, highwall mining has been proposed for 2 years to maintain the production level. During this period of 2 years, once the surface constraints are removed and land acquisitions are done, mining will again continue by OC method.

- Earlier the proposal was considered in the 39<sup>th</sup> EAC meeting vide dated 13.01.2023 for submitting the reply of observation of EAC. The PP has submitted information on Parivesh as mentioned below:

S.N o.	Observation of EAC	Reply by PP																															
1.	The PP shall submit the modified mining plan by incorporating all the proposed amendment of cluster no. 2 group of 3 mixed mines.	<p>Mining Plan has been modified and the amended EC capacities is proposed for 3 years only i.e., 2023-24, 2024-25 and 2025-26 after which the present EC capacities as per EC dated 27.05.2021 will prevail.</p> <p>The same is detailed in tables shown below:</p> <table border="1"> <thead> <tr> <th colspan="5">As per existing EC granted on 27.05.2021</th> <th colspan="4">As per Revised Proposal for 3 years only (2023-24, 2024-25 and 2025-26)</th> <th rowspan="2">Balance Life of mine (yrs) from 2023-24 onwards</th> <th rowspan="2">Remarks</th> </tr> <tr> <th>S. N o.</th> <th>Name of mine</th> <th>Lease Area (Ha)</th> <th>Peak capacity (MT)</th> <th>Life of mine (yrs)</th> <th>S. N o.</th> <th>Name of mine</th> <th>Lease Area (Ha)</th> <th>Peak capacity (MT)</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Kumardhubi UG</td> <td>667.0</td> <td>0.10</td> <td>18</td> <td>1</td> <td>Kumardhubi UG</td> <td>634.0</td> <td>0.05</td> <td>30</td> <td>Decrease in lease area from</td> </tr> </tbody> </table>	As per existing EC granted on 27.05.2021					As per Revised Proposal for 3 years only (2023-24, 2024-25 and 2025-26)				Balance Life of mine (yrs) from 2023-24 onwards	Remarks	S. N o.	Name of mine	Lease Area (Ha)	Peak capacity (MT)	Life of mine (yrs)	S. N o.	Name of mine	Lease Area (Ha)	Peak capacity (MT)	1	Kumardhubi UG	667.0	0.10	18	1	Kumardhubi UG	634.0	0.05	30	Decrease in lease area from
As per existing EC granted on 27.05.2021					As per Revised Proposal for 3 years only (2023-24, 2024-25 and 2025-26)				Balance Life of mine (yrs) from 2023-24 onwards	Remarks																							
S. N o.	Name of mine	Lease Area (Ha)	Peak capacity (MT)	Life of mine (yrs)	S. N o.	Name of mine	Lease Area (Ha)	Peak capacity (MT)																									
1	Kumardhubi UG	667.0	0.10	18	1	Kumardhubi UG	634.0	0.05	30	Decrease in lease area from																							

											667.00 Ha to 634.00 Ha with reduction in capacity from 0.10 MTY to 0.05 MTY.	
		2	Barmuri OC	59.0	0.50	10	2	Barmuri OC	92.0	0.90	9	Increase in capacity from 0.50 MTY to 0.90 MTY with increase in leasehold area from 59.00 Ha to 92.00 Ha (for the purpose of mine closure planning only).
		3	Rajpura OC	292.0	0.50	10	3	Rajpura OC & UG (Highwall)	292.0	0.15	30	Introduction of Highwall Mining Technology. No change

											in area with reduction in capacity from 0.50 MTY to 0.15 MTY.							
		<b>Total</b>	<b>101 8.0</b>	<b>1.10</b>		<b>Total</b>	<b>101 8.0</b>	<b>1.10</b>										
		<p><b>Kumardhubi UG:</b> The mine has hovered around 0.05 MTY since the grant of EC. It is unlikely that Kumardhubi UG will reach its assigned capacity of 0.10 MTY in the coming 3 years as the mine is operating with semi-mechanised method of mining and the present geo-mining conditions are not conducive to higher production from this mine in the immediate future. Hence, in the interim period, balance capacity of 0.05 MTY has been transferred to Rajpura Highwall (UG).</p> <p><b>Barmuri OCP:</b> Owing to the given favourable mining conditions, the output from the mine is proposed to be raised from present capacity of 0.50 MTY to 0.90 MTY in the next 3 years. Together with reserves still available within the existing quarry, there is in total 3.20 MT of reserves available for extraction at a very favourable stripping ratio varying from 1: 1.5 to 1: 2. The incremental capacity of 0.40 MTY is proposed to be diverted from the other 2 mines of the cluster (Kumardhubi UG – 0.05 MTY and Rajpura UG &amp; OC – 0.35 MTY). Due to depletion of reserves within the existing quarry, the production from the mine will dwindle from 2026-27 till 2031-32 when the reserves will be completely exhausted.</p> <p><b>Rajpura OCP:</b> Reserves are near exhaustion in Rajpura OC and thus, the mine will not be able to produce more than 0.10 MTY in the coming three years. Hence, in the interim period, balance capacity of 0.40 MTY has been transferred to Barmuri OC, which is in a position to produce at a higher capacity. Further, it is proposed to introduce highwall mining, which will yield about 0.05 MTY in the production build-up stage. The highwall mining will reach its assigned capacity of 0.33 MTY after 3 years and composite output (UG+OC) from this mine will be 0.50 MTY.</p>																
2.	The PP should submit the clarity upon the life of individual	<p>The life of mines under Cluster no. 2 have been calculated and tabulated below:</p> <table border="1"> <thead> <tr> <th>S. No.</th> <th>Name of the Mine</th> <th>Production plan during next 3 years (MT)</th> <th>Remaining Reserves after 3 years (MT)</th> <th>EC Capacity (MTY)</th> <th>Remaining Life (as per balance reserves / production)</th> <th>Total life from 2023-24 onwards</th> </tr> </thead> </table>										S. No.	Name of the Mine	Production plan during next 3 years (MT)	Remaining Reserves after 3 years (MT)	EC Capacity (MTY)	Remaining Life (as per balance reserves / production)	Total life from 2023-24 onwards
S. No.	Name of the Mine	Production plan during next 3 years (MT)	Remaining Reserves after 3 years (MT)	EC Capacity (MTY)	Remaining Life (as per balance reserves / production)	Total life from 2023-24 onwards												



al mines and also overall life of mine of Cluster no. 2.						<b>n</b>	<b>(in</b>														<b>schedule)</b>	<b>(in</b>	<b>years)</b>
							<b>(in years)</b>														<b>(C=A/B)</b>		
	1	Kumardhubi UG	0.15	9.00	0.10	90	93																
	2	Barmuri OC	2.40	0.80	0.50	6	9																
3	Rajpura OC & UG (Highwall)	0.45	15.00	0.50	30	33																	
<b>Revised Production Schedule</b>																							
<b>S. No.</b>	<b>Name of the mine</b>	<b>Method of Mining</b>	<b>Actual Production (MT)</b>	<b>EC Capacity for 3 years (MTY)</b>	<b>Proposed production Schedule (MT)</b>			<b>EC Capacity after 3 years (MTY)</b>	<b>Proposed production Schedule (MT)</b>														
			<b>22-23</b>		<b>23</b>	<b>24</b>	<b>25</b>		<b>26</b>	<b>27</b>	<b>28</b>	<b>29</b>	<b>30</b>	<b>31</b>	<b>32</b>								
1	Kumardhubi	UG	0.02	0.05	0.05	0.05	0.05	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
2	Barmuri	OC	0.50	0.90	0.75	0.90	0.75	0.50	0.50	0.10	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
3	Rajpura	OC & UG (Highwall)	0.07	0.15	0.15	0.15	0.15	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
<b>Total</b>			<b>0.59</b>	<b>1.10</b>	<b>0.95</b>	<b>1.10</b>	<b>0.95</b>	<b>1.10</b>	<b>1.10</b>	<b>0.70</b>	<b>0.65</b>	<b>0.65</b>	<b>0.65</b>	<b>0.65</b>	<b>0.65</b>	<b>0.65</b>	<b>0.65</b>	<b>0.65</b>	<b>0.65</b>	<b>0.65</b>	<b>0.65</b>	<b>0.65</b>	<b>0.65</b>
3.	The PP should submit the existing reserves separately for each mine.	The details of existing reserves of mines under Cluster No. 2 is tabulated below:																					
		<b>S. No.</b>	<b>Name of the Mine</b>		<b>Reserves (MT)</b>																		
		1	Kumardhubi UG		9.15																		
		2	Barmuri OC		3.20																		
		3	Rajpura OC & UG (Highwall)		15.45																		

4.	The PP should submit the certified compliance report of the EC letter dated 27.05.2021.	Site inspection for grant of Certified Compliance Report (CCR) was conducted by the officials of IRO, MoEF&CC, Ranchi from 17.08.2023 to 18.08.2023. The <a href="#">CCR</a> has been submitted on 15.11.2023. Time bound Action Taken Report on the observations of the CCR has been prepared.																																																																										
5.	The PP shall submit the details related to the Public Hearing budget and expenditure incurred as well as the amount to be spent in future.	<p>Details related to the Public Hearing budget and expenditure incurred as been attached as <b>Annexure-III</b></p> <table border="1"> <thead> <tr> <th colspan="5"><b>Capital for fulfilment of commitments made during Public Hearing</b></th> <th colspan="3"><b>Future Implementation Program (in ₹ Lakh)</b></th> </tr> <tr> <th rowspan="2">Sl. No.</th> <th rowspan="2">Description</th> <th colspan="2"><b>Budgeted Amount (in ₹ Lakh)</b></th> <th rowspan="2"><b>Investment made till date (in ₹ Lakh)</b></th> <th rowspan="2"><b>2023-24</b></th> <th rowspan="2"><b>2024-25</b></th> <th rowspan="2"><b>2025-26</b></th> </tr> <tr> <th>Capital</th> <th>Revenue</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Repairing of pipelines</td> <td>-</td> <td>3.00</td> <td>14.00</td> <td>3.00</td> <td>3.00</td> <td>3.00</td> </tr> <tr> <td>2</td> <td>Supply of Water by installing Pressure Filters</td> <td>33.00</td> <td>-</td> <td>25.00</td> <td>-</td> <td>4.00</td> <td>4.00</td> </tr> <tr> <td>3</td> <td>Spraying arrangement (mobile and fixed) for controlling dust pollution</td> <td>84.00</td> <td>-</td> <td>104.20</td> <td>-</td> <td>4.80</td> <td>7.00</td> </tr> <tr> <td>4</td> <td>Plantation activities within cluster</td> <td>-</td> <td>540.72</td> <td>60.00</td> <td>25.00</td> <td>25.00</td> <td>25.00</td> </tr> <tr> <td>5</td> <td>Construction of Coal Transport Road</td> <td>150.00</td> <td>-</td> <td>314.00</td> <td>-</td> <td>-</td> <td>-</td> </tr> <tr> <td>6</td> <td>Community Development Works</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>I</td> <td>Installation of Solar Lights</td> <td>5.00</td> <td>-</td> <td>12.00</td> <td>-</td> <td>-</td> <td>-</td> </tr> </tbody> </table>	<b>Capital for fulfilment of commitments made during Public Hearing</b>					<b>Future Implementation Program (in ₹ Lakh)</b>			Sl. No.	Description	<b>Budgeted Amount (in ₹ Lakh)</b>		<b>Investment made till date (in ₹ Lakh)</b>	<b>2023-24</b>	<b>2024-25</b>	<b>2025-26</b>	Capital	Revenue	1	Repairing of pipelines	-	3.00	14.00	3.00	3.00	3.00	2	Supply of Water by installing Pressure Filters	33.00	-	25.00	-	4.00	4.00	3	Spraying arrangement (mobile and fixed) for controlling dust pollution	84.00	-	104.20	-	4.80	7.00	4	Plantation activities within cluster	-	540.72	60.00	25.00	25.00	25.00	5	Construction of Coal Transport Road	150.00	-	314.00	-	-	-	6	Community Development Works							I	Installation of Solar Lights	5.00	-	12.00	-	-	-
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		II	Construction and installation of R.O. Plant	-	-	20.00	-	-	-	
		III	Development of Playground near Kumardhubi Agent Office and Prabhat Stadium	-	-	50.00	-	-	-	
		IV	Repair of overhead lines	-	-	8.00	-	-	-	
		V	Sanitation	10.00	-	7.00	1.00	1.00	1.00	
			<b>Total</b>	<b>282.00</b>	<b>543.72</b>	<b>614.20</b>	<b>29.00</b>	<b>37.80</b>	<b>40.00</b>	
			<b>Future Implementation Cost (in ₹ Lakh)</b>					<b>106.8</b>		
6.	The PP shall submit the status of EMP budget that has already been spent or will be spent in future.	The details of EMP budget that has been already spent along with future implementation plan is tabulated below:								
<b>Capital for Environmental Protection &amp; Anti – Pollution Measures in Mines, Industrial Area &amp; Townships</b>							<b>Future Implementation Program (in ₹ Lakh)</b>			
<b>Sl. No.</b>	<b>Description</b>	<b>Amount</b>	<b>Investment made till date (in ₹ Lakh)</b>	<b>2023-24</b>	<b>2024-25</b>	<b>2025-26 till mine life</b>				
1	Mobile Water Sprinkler 10/12 KL (01 Required)	30.00	60.00							
2	Dust Suppression in mines									
I	Fixed Type sprinkler at ROCP & Barmuri OCP	20.00	22.00							
II	Fixed Type sprinkler at Kumardhubi Railway Siding	20.00	15.00			5.00				
III	Fixed Type Sprinkler at all Tipplers point (01)	2.00	2.00							
IV	Fixed Type Sprinkler at all OC Coal Depot	10.00	4.00		4.00	2.00				
V	Fixed Type water sprinkler at Kumardhubi UG Coal Depot	2.00	1.20		0.80					
3	Sedimentation Tanks (one for each – 3 no.)	60.00	45.00	15.00						
4	Pressure Filters									
I	Rajpura OC, Barmuri OC & kumardhubi UG	33.00	25.00		4.00	4.00				

5	Lighting at Railway Siding	5.00	3.00		2.00		
6	Sanitation	10.00	7.00	1.00	1.00	1.00	
7	Roads						
I	Roads construction at Barmuri OCP (1000M)	150.00	110.00	15.00	10.00	15.00	
	<b>Total</b>	<b>342.00</b>	<b>294.20</b>	<b>31.00</b>	<b>21.80</b>	<b>27.00</b>	
	<b>Future Implementation cost (in ₹ Lakh)</b>					<b>79.8</b>	
Expenditure On Environmental Protection & Anti – Pollution Measures In The Last 5 Years							
	<b>Expenditure head</b>	<b>2018-19</b>	<b>2019-20</b>	<b>2020-21</b>	<b>2021-22</b>	<b>2022-23</b>	<b>Total</b>
	Capital	75.71	80.31	50.88	29.00	99.00	172.09
	Revenue	65.71	102.81	30.00	26.42	63.00	210.24
	<b>Total</b>	<b>141.42</b>	<b>183.12</b>	<b>80.88</b>	<b>55.42</b>	<b>162.00</b>	<b>382.33</b>

- i. EC was granted for Cluster no. 2 group of 3 mixed mines vide letter no. J-11015/37/2011-IA. II (M) dated 16.01.2015 for the production capacity from 0.36(Normative) to 0.45 MTPA (peak) in the MLA of 1018 ha M/s Eastern Coalfield Limited.
- ii. Further, EC was granted for expansion of Cluster no. 2 group of 3 mixed mines vide letter no. J-11015/37/2011-IA. II (M) dated 16.06.2016 for the production capacity from 0.45 to 1.10 MTPA in the MLA of 1018 ha.
- iii. The extension of validity of EC to Cluster no. 2 group of 3 mixed mines was granted vide letter no. J-11015/37/2011-IA. II (M) dated 27.05.2021.
- iv. PP has proposed the following amendments:

		As per existing EC letter issued on 27.05.2021			Proposed Amendment			Remarks
S. No.	Name of mine	Lease Area (Ha)	EC capacity (MT)	Life of mine (yrs)	Proposed Lease Area (Ha)	Peak capacity (MT)	Life of mine (yrs)	
1	Kumardhubi UG	667.0	0.10	18	634.0	0.05	>30	Decrease in lease area from 667.00 Ha to 634.00 Ha with reduction in capacity from 0.10

								MTY to 0.05 MTY.
2	Barmuri OC	59.0	0.50	10	92.0	0.90	>10	Increase in capacity from 0.50 MTY to 0.90 MTY with increase in leasehold area from 59.00 Ha to 92.00 Ha (for the purpose of mine closure planning only).
3	Rajpura OC	292.0	0.50	10	292.0	0.15	>30	Introduction of Highwall Mining Technology. No change in area with reduction in capacity from 0.50 MTY to 0.15 MTY.
	<b>Total</b>	<b>1018.0</b>	<b>1.10 MTPA</b>		<b>1018.0</b>	<b>1.10 MTPA</b>		

**5.2.3** *The EAC after deliberations observed that the Project proponent has submitted the proposal for amendment in EC dated 27.05.2021 regarding the restructuring of mines within overall area as well as introduction of High wall technology. Also, PP proposes changes in production capacity of sub-mines which would remain well within overall sanctioned capacity. By seeing lack of plantation from drone video, the Committee emphasised to strengthen the plantation within/outside the ML area by establishing a nursery having capacity of minimum 1 lakh tree saplings. It was advised that at least 10,000 saplings to be distributed among all the local villagers for mitigating the adverse effects of air pollution and increasing carbon sequestration.*

*The Committee finally found that it is an adjustment of internal mine capacities with internal mine area so as to manage the mine activities and maintain the similar production capacity, which is not seems to be causing significant pollution as there is no conversion of UG to OC.*

*Based on documents submitted by PP, EAC **recommended** to amend the EC for further three years (i.e. till 2026) after incorporating the above para no. 5.2.2 (v) with the existing production*

capacity & ML area for Cluster no. 2 group of mixed mines from 0.45 MTPA to 1.10 MTPA in combined ML Area of 1018 ha of M/s Eastern Coalfield Limited located in Tehsil Nirsa Cum-Chirkunda District Dhanbad (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. PP shall strengthen the plantation i.e. within/outside the ML area by establishing a nursery having capacity of minimum 1 lakh tree saplings. At least 10,000 saplings to be distributed among all the local villagers.
- ii. PP shall implement the activities-wise proposed budget for Public Hearing budget of Rs. 106.8 lakhs in addition to Rs. 614.20 lakhs and EMP cost of Rs. 79.8 in addition to Rs. 294.2 in time bound manner. The details of annual expenditure incurred shall be part of report to be submitted to IRO, MoEF&CC. PP needs to include the audited figures against the expenditure and activities to be monitored through dedicated monitoring mechanism. The maintenance of all activities shall be covered through recurring cost of Public Hearing, and continued as a part of CSR budget.

### **Agenda No. 5.3**

**Expansion of Bhubaneswari OCP for increase in Mine lease area from 638.341 Ha to 658.724 Ha [638.341ha+20.383ha (forest area)] keeping existing production capacity 30 MTPA by M/s Mahanadi Coalfields Ltd. located in the villages Jilinda, Hensmul (Sharasahi), Hensmul (Talasahi), Naraharipur, Khandualbhal, Kandhal, Madanmohanpur, Langijoda and Anadipur, Tehsil Talcher Sadar, District Angul (Odisha) – For Terms of Reference- reg.**

**[Online Proposal No. IA/OR/CMIN/418337/2023; File No. J-11015/280/2013-IA. II (M)]**

**5.3.1** The proposal is for Terms of Reference for expansion of Bhubaneswari OCP for increase in Mine lease area from 638.341 Ha to 658.724 Ha [638.341ha+20.383ha (forest area)] with existing production capacity 30 MTPA by M/s Mahanadi Coalfields Ltd. located in the villages Jilinda, Hensmul (Sharasahi), Hensmul (Talasahi), Naraharipur, Khandualbhal, Kandhal, Madanmohanpur, Langijoda and Anadipur, Tehsil TalcherSadar, District Angul (Odisha).

**5.3.2 Details of the proposal, as ascertained from the proposal are given as under:**

#### **I. LOCATION OF THE PROJECT**

- (i) The project area is covered under Survey of India Topo Sheet No F45T1 on R.F 1:50000 and special toposheet nos. D1, D2, E1& E2 on R.F 1:10000. and is bounded by the geographical coordinates ranging from latitude 20°57'58.03"N to 20°59'17.44"N and longitudes 85° 8'26.86"E to 85° 11'5.73"E.
- (ii) Coal linkage of the project: Thermal Power Plants & Basket Linkage (APGENCO, TANGEDCO, NTPC SIMHADRI, etc.).
- (iii) Joint venture cartel has been formed: Not Applicable

- (iv) Project does not fall in the Critically Polluted Area (CPA), where the MoEF & CC vide its OM dated 13<sup>th</sup> January, 2010 has imposed moratorium on grant of environment clearance.
- (v) Employment generation: Approximately 1007 nos. of direct employment already generated.
- (vi) The project is reported to be beneficial in terms of
  - a) Improvement in Physical Infrastructure
  - b) Improvement in Social Infrastructure
  - c) Increase in employment potential
  - d) Contribution to the Exchequer (both State and Central Govt.)
  - e) Post mining enhancement of Green Cover
  - f) Improvement of Electrical Power Generation & availability of electricity for 24x7 in rural areas
  - g) Overall economic growth of the country.
- (vii) The proposal is for consideration of ToR for expansion in mining lease area from 638.341 Ha to 658.724 Ha including left out forest land of 20.383 Ha under 7(ii) of EIA notification 2006 and as per the OM dtd. 11-04-2022 on case-to-case basis for exemption of Public Hearing and preparation of EIA/EMP keeping the production capacity remaining same i.e. 30 MTPA.
- (viii) EC earlier granted on MoEF & CC F.No. J-11015/159/2015-IA-II(M) Dt.10-11-2023 for 30 MTPA.
- (ix) Total mining lease area as per block allotment is 658.724 Ha. The Mining plan and Mine closure plan of Bhubaneswari OCP (30Mty) was approved by 246<sup>th</sup> MCL board held on 25.04.2022 and further corrigendum vide letter dated 23.09.2023.

## II. LAND USE DETAILS OF THE MINE

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

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

S. No.	Particulars	Within ML Area (in Ha)	Outside ML Area (in Ha)	Total Area for 30.0 MTY
a.	Agriculture	445.030	Nil	445.030
b.	Forest	132.904	Nil	132.904
c.	Waste land	--	Nil	--
d.	Grazing	--	Nil	--
e.	Surface water bodies	--	Nil	--
f.	Others (specify)	80.790	Nil	80.790
	<b>Total</b>	<b>658.724</b>	<b>0.00</b>	<b>658.724</b>

### Post Mining land use details (Area in Ha)

S. No.	Category	Plantation	Unfilled void	Dip side slope	Undisturbed	Agriculture	Public/Company use	Total
1.	Quarry excavation	339.488	266.013	---	---	---	8.606	614.107
2.	Safety Zone (7.5mt)	6.778	---	---	---	---	---	6.778
3.	OB dumps (external)	---	---	---	---	---	---	---
4.	Infrastructure & Roads	6.713	---	---	---	---	8.606	15.319
5.	Green belt	10.00	---	---	---	---	---	10.00
6.	Coal stock yard	---	---	---	---	---	---	---
7.	Nalla diversion & settling pond	---	---	---	---	---	---	---
8.	Other areas (embankment, magazine)	12.52	---	---	---	---	---	12.52
<b>9.</b>	<b>Mine Lease Area (A)</b>	<b>375.499</b>	<b>266.013</b>	---	---	---	<b>17.212</b>	<b>658.724</b>
10	Colony	6.400	---	---	---	---	25.600	32.00
11.	Resettlement	23.520	---	---	---	---	94.050	117.57
<b>12</b>	<b>Outside Mine Lease Area (B)</b>	<b>29.920</b>	---	---	---	---	<b>119.650</b>	<b>149.57</b>
<b>13</b>	<b>Total Project Area (A+B)</b>	<b>405.419</b>	<b>266.013</b>	---	---	---	<b>136.862</b>	<b>808.294</b>

(xi) Total geological reserve was 465.73 Mt. The mineable reserve 396.52 MT, balance extractable reserve is 94.46 MT (as on 01.04.2023) with per cent of extraction as 85.14%.



- (xii) 13 seams with average thickness 95.30 m. The coal grade is average G11 to G13. The stripping ratio is 1.50 cum/tonne. The average gradient is 2° to 7°.
- (xiii) The method of mining would be Opencast by Shovel - Dumper/ Ripper-dozer in OB/ parting; Surface miner, pay loader & tipper in coal.
- (xiv) The life of mine is 4 Years.
- (xv) There is no external OB dump in the project.
- (xvi) Total quarry area is 614.107 ha out of which backfilling will be done in 339.488 Ha. While unfilled mine void will be created in an area of 266.013 Ha is for future expansion and same will be partially planted or grass carpeted. Final mine void with a maximum depth of 30m. Backfilled quarry area of 339.488Ha shall be reclaimed with plantation/grassing. Final mine void will be converted into a water body.

### **III. TRANSPORTATION OF COAL**

- (xvii) Transportation of coal has been proposed by Tippers/dumper in mine pit head, from surface to siding by closed pipe conveyor and at sidings by SILO. The entire coal production of 30.0Mty will be by Surface Miner. The coal will be dispatched through rail and road mode.
- (xviii) Reclamation Plan in an area of 405.419 Ha, comprising of 339.488 Ha of internal dump, 26.011Ha of built-up area, 10.0 Ha of green belt and 29.920 Ha outside mine lease area.
- (xix) Total 132.904 Ha Forest land is involved in mining lease out of which 112.521 Ha, for which stage II FC has already been granted by vide letter 8-18/2002/89-FC, Dt-06.12.2004 against the original proposal of 132.904 Ha. Application for balance forest land of 20.383 Ha has already been uploaded vide proposal no. FP/OR/MIN/155017/2022 on 30.04.2022. The proposal is under active consideration with MoEF&CC for grant of Stage-I FC
- (xx) No National Parks, Wildlife Sanctuaries and Eco-Sensitive Zones have been reported with 10 km boundary of the project.
- (xxi) Wildlife Conservation plan: Habitat management prepared by PCCF (wildlife), Odisha vide letter no: 3090/3WL-(Cons)33/04, dated, Bhubaneswar, dated 06/07/2004.
- (xxii) The ground water level has been reported to be varying between 4.45 m to 9.30 m during pre-monsoon and between 2.10 m to 7.10 m during post-monsoon.
- (xxiii) Total estimated water requirement for the project is 5516 KLD.
- (xxiv) NOC from the Central Ground Water Authority has been obtained vide CGWA/NOC/MIN/ORIG/2020/9378 dated 16.12.2020. Application for renewal is under process at CGWA.

### **IV. DETAILS OF PUBLIC HEARING & RELATED ISSUES**

- (xxv) Public hearing for the Bhubaneswari Opencast Project of 20 MTPA capacity in an area of 658.724 Ha was conducted at Jagannath Kalakendra, MCL, Jagannath area on 10.02.2009, at 10.00 AM. Additional District Magistrate supervised and presided over the Public Hearing Process. Additional District Magistrate supervised and presided over the Public Hearing Process. The issues raised during Public Hearing were regarding Employment, Supply of drinking water, Blasting vibration, Plantation, dust in pond in core zone, dust suppression & sprinkling on peripheral roads. All the issues have been addressed.

- (xxvi) Hearing have already been taken up on 10.02.2009.
- (xxvii) Consent to operate (CTO) for existing EC (30 MTPA) in ML area 638.341 HA is already obtained from the State Pollution Control Board and valid up to 31.03.2024.
- (xxviii) No river/nalla is flowing within the boundary of mining lease. Hence, no diversion is proposed.
- (xxix) Regular monitoring of ambient air quality is being and will be carried out on fortnightly basis. The documented report is being and will be submitted to Regional Office, MoEF&CC, and Bhubaneswar and also to MoEF&CC along with half yearly EC compliance report.
- (xxx) No court cases are pending in the court.
- (xxxi) The project does not involve violation of the EIA Notification, 2006 and amendment issued there under. The coal production from the mine was started from the year 2007-08 onwards. No excess production of coal from the sanctioned capacity has been realized since the commencement of mining operations. The coal production, realized from the project, from 1993-94 onwards, is as under:

<b>Year</b>	<b>EC sanctioned capacity (MTPA)</b>	<b>Actual Production (MTPA)</b>	<b>Excess production beyond the EC sanctioned capacity</b>
2007-08	10.00	0.20	--
2008-09	10.00	1.84	--
2009-10	10.00	4.00	--
2010-11	10.00	3.27	--
2011-12	10.00	7.11	--
2012-13	20.00	17.93	--
2013-14	25.00	24.44	--
2014-15	25.00	25.00	--
2015-16	25.00	25.00	--
2016-17	25.00	25.00	--
2017-18	28.00	26.25	--
2018-19	28.00	28.00	--
2019-20	28.00	28.00	--
2020-21	28.00	28.00	--
2021-22	28.00	28.00	--
2022-23	30.00	30.00	--
2023-24	30.00	15.95 (as on 30.11.2023)	--

## **V. BENEFITS OF THE PROJECT**

- (xxxii) The project involves 1242 project affected families. R&R of the PAPs is being done as per Orissa Rehabilitation and Resettlement Policy 2006. Employment already provided to 1007 persons. Cash in lieu of employment provided to 35 persons and rest 13 are under process.

(xxxiii) Total capital cost of the project is Rs. 490.10 Crores. CSR Cost - 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 the previous year whichever is higher. R&R Cost Rs. 29.51 Crores. Cost for implementing EMP will be provided after preparation of EMP as per approved TOR by MoEF&CC.

(xxxiv) Consent to operate (CTO) will be obtained from the State Pollution Control Board for the current proposal after securing Environment Clearance

(xxxv) Past Production details comparison with existing EC-

Year	EC sanctioned capacity (MTPA)	Actual Production (MTPA)	Excess production beyond the EC sanctioned capacity
2007-08	10.00	0.20	--
2008-09	10.00	1.84	--
2009-10	10.00	4.00	--
2010-11	10.00	3.27	--
2011-12	10.00	7.11	--
2012-13	20.00	17.93	--
2013-14	25.00	24.44	--
2014-15	25.00	25.00	--
2015-16	25.00	25.00	--
2016-17	25.00	25.00	--
2017-18	28.00	26.25	--
2018-19	28.00	28.00	--
2019-20	28.00	28.00	--
2020-21	28.00	28.00	--
2021-22	28.00	28.00	--
2022-23	30.00	30.00	--
2023-24	30.00	15.95 (as on 30.11.2023)	--

## VI. CONTROL OF POLLUTION: (A) AIR & (B) WATER

(xxxvi) **(A) AIR:** Baseline data has been generated for the period of October 2022 to December, 2022 Post-monsoon). PM<sub>2.5</sub> in core-zone varies from 35.1 µg/m<sup>3</sup> (Debalayapur Village) to 77.7 µg/m<sup>3</sup> (BCML Workshop). In buffer zone, PM<sub>2.5</sub> varies from 21.4 µg/m<sup>3</sup> (Khairapal Village) to 45.80 µg/m<sup>3</sup> (TTPS). PM<sub>10</sub> in core zone ranges from 74.6 µg/m<sup>3</sup> (Debalayapur Village) to 139.6 µg/m<sup>3</sup> (BCML Workshop). In buffer zone, PM<sub>10</sub> varies from minimum 46.40 µg/m<sup>3</sup> (Khairapal Village) to maximum 88.90 µg/m<sup>3</sup> (TTPS). Values of both SO<sub>2</sub> and NO<sub>x</sub> was observed very low compared to the permissible limits of Coal Mine Standard (120 µg/m<sup>3</sup>) and NAAQS-2009 (80 µg/m<sup>3</sup>). The minimum value in core zone for SO<sub>2</sub> was 16.0 µg/m<sup>3</sup> at Debalayapur Village and maximum was 31.7 µg/m<sup>3</sup> at BCML Workshop. Likewise, for NO<sub>x</sub> minimum was 19.5 µg/m<sup>3</sup> at Debalayapur Village and maximum was 36.0 µg/m<sup>3</sup> at BCML Workshop. In buffer zone, NO<sub>x</sub> ranges from 9.5 µg/m<sup>3</sup> at Hariharpur Village to 27.8 µg/m<sup>3</sup> (TTPS). Similarly, SO<sub>2</sub> varies from minimum 5.9 µg/m<sup>3</sup> (Khairapal Village) to

maximum 26.6 µg/m<sup>3</sup> (TTPS). All the observed values of SO<sub>2</sub> and NO<sub>x</sub> are well within the permissible limits. SO<sub>2</sub> and NO<sub>x</sub> are not concern pollutants in the study area.

The incremental increase in the values were projected to be 65.79 µg/m<sup>3</sup> for PM 10, 16.23 µg/m<sup>3</sup> for PM 2.5, 34.29 µg/m<sup>3</sup> for SO<sub>2</sub>, and 22.88 µg/m<sup>3</sup> for NO<sub>x</sub>. The value of Total GLC is 205.39 µg/m<sup>3</sup> for PM 10, 93.93 µg/m<sup>3</sup> for PM 2.5, for 65.99 µg/m<sup>3</sup> SO<sub>2</sub>, and 58.88 µg/m<sup>3</sup> for NO<sub>x</sub>. The observed pollutant levels are compared with CPCB National Ambient Air Quality Standards.

**(B) WATER:**

Number of Surface water monitoring locations: 4 Nos

1. Brahmani river upstream 2. Brahmani river downstream, 3. Bangaru stream upstream and 4. Bangaru Stream downstream. At Bangaru Stream Upstream and Downstream, pH varied from 6.88 to 7.67, TDS ranges from 91 mg/L to 581 mg/L, Total hardness ranges between 46 to 272 mg/L. DO ranges between 7.1 to 7.8 mg/L respectively.

**VII. PP shall provide the historical background of the project since its inception with regard to grant of EC and production capacity.**

(xxxvii) The chronology of different ECs for Bhubaneswari OCP is given in following table:

Table 1: Details of Environmental Clearances

Sl. No.	Capacity	ML area in Ha	Date of EC	Remarks
1.	EC of 10.0 Mty	658.724	06-06-2003	EIA notification, 1994
2.	EC of 20.0 Mty	658.724	30-11-2012	EIA notification, 2006
3.	EC of 25.0 Mty	638.341	19-02-2014	Under 7 (ii) clause of EIA notification, 2006 (25% increment under special dispensation)
4.	EC of 28.0 Mty	638.341	16-02-2018	Under 7 (ii) clause of EIA notification, 2006 (40% increment under special dispensation)
5.	EC of 28.0 Mty	638.341	02-05-2022	Amendment in EC
6.	EC of 30.0 Mty	638.341	25-07-2022 & 10-11-23	EC under OM vide no.F.No.IA3-22/10/2022-IA.III, dated 07.05.2022 (50% increment under special dispensation)

**5.3.3** Committee noted the following during the EAC meeting:

i. The PP has obtained the following Environmental Clearance:

Sl. No.	Capacity	ML area in Ha	Date of EC	Remarks
1.	EC of 10.0 Mty	658.724	06-06-2003	EIA notification, 1994
2.	EC of 20.0 Mty	658.724	30-11-2012	EIA notification, 2006

3.	EC of 25.0 Mty	638.341	19-02-2014	Under 7 (ii) clause of EIA notification, 2006 (25% increment under special dispensation)
4.	EC of 28.0 Mty	638.341	16-02-2018	Under 7 (ii) clause of EIA notification, 2006 (40% increment under special dispensation)
5.	EC of 28.0 Mty	638.341	02-05-2022	Amendment in EC
6.	EC of 30.0 Mty	638.341	25-07-2022 & 10-11-23	EC under OM vide no.F.No.IA3-22/10/2022-IA.III, dated 07.05.2022 (50% increment under special dispensation)

- ii. Earlier the PP had FC for 112.521 ha out of total forest land 132.904 ha lying within the total ML area of 658.724 ha. Subsequently application of FC for the part of the forest area i.e. 20.383 ha (132.904 ha - 112.521 ha) has been submitted vide proposal no. FP/OR/MIN/155017/2022 dated 30.04.2022.
- iii. The Public Hearing was conducted on 10.02.2009 for the total ML area of 658.724 ha which includes 20.383 ha of Forest Land.
- iv. The Life of Mine is 5 years as on 01-04-2022.
- v. PP has submitted the instant application for issuance of ToR with exemption of Public Hearing under Para 7 (ii) of EIA Notification 2006 for increase in ML area upto 658.724 ha along with preparation of EIA/EMP.

**5.3.4** *The Committee after detailed deliberations noted that the instant proposal is for Terms of Reference for project wherein PP will have to maintain coal production on similar capacity i.e 30 MTPA (on granted EC) but with slight increase of area from 638.341ha to 658.724 Ha (i.e 20.383). It has been noted that PP has already conducted public hearing on the same mine area i.e 658.724 ha which is being proposed and had also included the forest land i.e 20.383 ha. Further, EIA- EMP was already prepared for similar capacity for same mine area i.e 658.724 ha. However, PP in the past could not able to utilise the entire mine area due to delay in obtaining FC for 20.383 ha. Now PP is in process of getting the FC for 20.383 ha and accordingly requesting the committee to exempt the public area to avoid repetition the same process of pubic hearing, which has already been done for requirement of EIA-EMP report.*

*The Committee noted the reason cited by PP and opined that in fact it is a case of amendment of EC as PP has already prepared EIA-EMP and already conducted the public hearing on existing mine area and capacity which is proposed to be operated by PP. Earlier due to pressure of coal production PP curtailed the area wherein forest land has been involved as there is delay in process and land acquisition.*

*Due to the stated reasons and in view of the above, the EAC recommended to prepare EIA-EMP report with public consultation by inviting written submission from the affected persons in place of conducting detailed public hearing. Meanwhile PP shall have to collect the additional baseline data at*

least for 1 month for EIA-EMP report alongwith submission of certified inspection report from IRO, MoEF&CC.

Based on the above, EAC recommended the proposal for grant of Terms of Reference to Bhubaneswari OCP for increase in Mine lease area from 638.341 Ha to 658.724 Ha [638.341ha+20.383ha (forest area)] keeping existing production capacity 30 MTPA by M/s Mahanadi Coalfields Ltd. located in the villages Jilinda, Hensmul (Sharasahi), Hensmul (Talasahi), Naraharipur, Khandualbhal, Kandhal, Madanmohanpur, Langijoda and Anadipur, Tehsil Talcher Sadar, District Angul (Odisha) with public consultation by inviting written objection/suggestion of public with the following specific conditions under the provisions of EIA Notification, 2006 and its amendments:

**Specific Conditions:**

- i. PP shall conduct public consultation by issuing public notice in local media, newspapers (English, Hindi and local language) Report through concerned SPCB in the concerned districts as per the provisions/procedure contained in the EIA Notification, 2006 for information of the stakeholders about the present coal mining operations inviting comments and their redressal. All the issues raised and PP reply should be incorporated in EIA.
- ii. PP shall prepare adequate EMP addressing the issues raised in the last public hearing including redressal of public comments arising from public notices and provide sufficient budgetary provision to implement the plan.
- iii. PP shall submit the Stage-I Forest clearance for forest land 20.383 ha involved in the Mine lease area of 658.724 ha.
- iv. PP to submit the certified compliance report of existing EC duly compiled overall weighted conditions.
- v. PP has to collect the Baseline data on environmental quality – air (PM10, PM2.5, SOx, NOx and heavy metals such as Hg, Pb, Cr, As, etc), noise, water (surface and groundwater), soil for 1 month and same shall be reported in EIA-EMP report.
- vi. PP shall submit the approved Mine Plan as per proposal submitted for its peak production. No mining activity shall be conducted beyond this area and certificate from State Pollution Control Board shall be submitted during submission of EC stating that “No mining and its allied activities has been conducted outside the mine lease area of earlier EC”.
- vii. PP shall submit the photographs of plantation and recorded drone video of the complete Mine lease area.
- viii. PP shall submit the plan for drinking water supply through dedicated pipeline inside the ML area as well for the near villagers.
- ix. PP has to plan and implement the mechanized common coal evacuation system including inpit conveyor belt with silo loading for transportation of coal till railway siding. No transportation of coal by trucks/dumpers shall be proposed in EIA/EMP.
- x. PP has to prepare the collective EIA-EMP report considering the impact of other mines in the cluster. Collective EIA-EMP shall cover the impact on air & water and impact of common coal evacuation system.

- xi. *PP shall explore the possibilities of utilization of OB material for different purposes (in construction of roads, manufacture of artificial sand, aggregates, use for farmers etc.) and accordingly Plan shall be included in EIA/EMP Report.*
- xii. *Wind rose pattern in the area should be reviewed and accordingly location of AAQMS shall be planned by the collection of air quality data.*
- xiii. *PP shall provide the details of mining technology/methodology proposed to be adopted for coal mining operations and its associated environmental benefits of using from Climate Change perspective.*
- xiv. *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. A need based sample survey, family-wise, should be undertaken to assess their requirements, and action programs prepared and submitted accordingly, integrating the sectoral programmes of line departments of the State Government.*
- xv. *Permission for ground water withdrawal shall be obtained from Central Ground Water Authority (CGWA) only for mining activity.*
- xvi. *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 from a NABL/MoEF&CC accredited laboratory.*
- xvii. *No mining activity shall be proposed on grazing land till the alternate land is provided of same area to the community.*
- xviii. *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.*
- xix. *PP shall provide provision of integrated mine plan and mine reclamation cum land form / land scape plan for open cast coal mining project. The plan must show the predicted post mining reclaimed and reformed surface by regarding and reshaping to reduce its height as close to the original surface level and proper sloping benching and terracing of external dump should be clearly brought out in the post mine closure plan. This would also include water management strategies such as surface water catchment and drainage paths etc. of post mining land surface.*
- xx. *PP shall explore the use e-vehicles/LNG/CNG based mining machineries and trucks for mining operation and transportation of coal.*
- xxi. *PP shall submit letter from Principal Chief Conservator of Forest, State Government that the area does not falls under any Eco-sensitive zone and areas and further is no corridor of Elephants & Tigers.*
- xxii. *Details of toe-wall and garland drain to be constructed along the OB dump.*
- xxiii. *Reclamation to be done using geo-texturing technique of the dumps close to habitation and a cause of visual intrusion.*
- xxiv. *PP shall submit the certified compliance of the EC letter dated 25.07.2022 and 10.11.2023.*
- xxv. *PP to submit the status of any pending court cases or disposed of cases related to Civil court, High court, Supreme court and in any tribunal.*

- xxvi. *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.*
- xxvii. *A sub-committee of the EAC shall visit the site for an on the spot assessment of the environmental issues.*

#### **Agenda No. 5.4**

**Expansion of Khairaha Underground Coal mining project for increase in production capacity from 0.819 to 0.8775 MTPA (increase of 10% w.r.t 0.585 MTPA) in the mining lease area of 472.065 ha by M/s South Eastern Coalfields Limited with Production capacity from 0.819 to 0.8775 MTPA in the ML area 472.065 Ha located at Tehsil Burhar, District Shahdol (Madhya Pradesh) – Reconsideration for Environmental Clearance dated 13.12.2022 issued under OM vide no. F. No. IA3- 22/10/2022-IA.III 07.05.2022- [Availed total 50% relaxation of OM under clause 7 (ii) of EIA notification] – reg.**

**[Online proposal No. IA/MP/CMIN/432717/2023; File No. J-11015/72/2004-IA-II(M)]**

**5.4.1** The proposal is for Reconsideration for Environmental Clearance dated 13.12.2022 issued under OM vide no. F. No. IA3- 22/10/2022-IA.III 07.05.2022- [Availed total 50% relaxation of OM under clause 7 (ii) of EIA notification for Expansion of Khairaha Underground Coal mining project for increase in production capacity from 0.819 to 0.8775 MTPA (increase of 10% w.r.t 0.585 MTPA) in the mining lease area of 472.065 ha by M/s South Eastern Coalfields Limited with Production capacity from 0.819 to 0.8775 MTPA in the ML area 472.065 Ha located at Tehsil Burhar, District Shahdol (Madhya Pradesh).

**5.4.2** Earlier, the proposal was considered in the 48<sup>th</sup> EAC meeting dated 25-28<sup>th</sup> August, 2023 wherein committee deferred the proposal for submission of point-wise reply to the observation. The PP has submitted the point-wise reply on Parivesh as mentioned below:

<b>S.No.</b>	<b>Observation of EAC</b>	<b>Reply by PP</b>
1.	PP shall immediately install CAAQMS within two months in consultation of SPCB and submit the report to IRO.	<b>Compliance in progress,</b> At present two CAAQMS stations are installed in the buffer zone of the Khairaha UG Mine for monitoring of AAQ. In compliance of EAC's observations, 01 more CAAQMS station in the core zone of the mine will be installed which is under procurement and expected to be commissioned by March 2024. Photographs of two CAAQMS stations are attached as Annexure - I.
2.	PP shall install the permanent water sprinkling system along the permanent haul road connecting the mine to the main road in order to avoid deposition	- Khairaha is an underground mine. At present, 14 fixed type water sprinklers are already installed along the coal stock yard and along coal transportation road of the mine to avoid



	<p>of Coal dust in the agricultural lands adjoining the road.</p>	<p>generation of air borne dust.</p> <ul style="list-style-type: none"> <li>- For controlling fugitive dust at external coal transportation road, a high-capacity pressurized mist type mobile water tanker is deployed to control fugitive dust emission and minimization of coal dust deposition efficiently while consuming less quantity of water.</li> <li>- In addition to that, the asphalted coal transportation road of 1400-meter length from boom barrier to mam road 1s being reconstructed at a cost of Rs. 1.05 Cr and another 410-meter-long coal transportation road within the mine premise is also under construction with concrete pavement, which will help in controlling fugitive dust emission.</li> <li>- The trucks engaged in coal transportation are being optimally loaded and properly covered with tarpaulin to avoid spillage of coal.</li> </ul> <p>Photographs of all the air pollution control arrangement and work order copy of road repairing are attached as Annexure -II.</p>
3.	<p>PP shall strengthen the Garland drain-settling pond network all around the coal stockyard area.</p>	<p><b>Being complied,</b></p> <ul style="list-style-type: none"> <li>- All along the mine premises, a concrete garland drain has been provided and maintained in good condition. The maintenance, strengthening and cleaning of Garland drain is a part of monsoon preparation plan. For settling of runoff water 02 nos. surface settling tanks are provided. In addition to that, one additional settling tank is proposed to be constructed before the coming monsoon season. (Photographs of Garland drain and settling tanks are attached as Annexure - III).</li> </ul>
4.	<p>PP shall submit the operational status of ETP.</p>	<p>For treatment of waste water generated from workshop and washing ramps, a suitable capacity ETP (Oil and grease trap) is constructed at Khairaha UG Mine. (Photo of ETP enclosed as Annexure - IV)</p>

5.	PP shall submit the status of plantation within the ML area and in the near village area.	<p>Khairaha is an underground (UG) mine, and, in the initial stage of a UG mine, a very small parcel of land is required for development of the mine infrastructures at the surface. At present, only 11.432 Ha land has been acquired out of total mine area of 472.065 Ha, and Out of this 11.432 Ha land, a thick green belt has been developed in 2 Ha land by planting more than 5000 plants.</p> <p>In addition to that, 17,000 plants have also been planted along the coal transportation road of the mine.</p> <p>The land acquisition for coal extraction by depillaring is under process. After extraction of coal and settling of the above strata, more plantations will be carried out. (Expected timeline for start of plantation of depillared area-2026-27). (Photos of plantation sites are enclosed as Annexure - V)</p>
6.	PP shall submit the detail expenditure status already spent on education or planning to spend in future along with the expenditure detail related to health infrastructure.	<p>-Infrastructure construction at Nehru Degree college – 16 Lacs, -In Khannath village school - 04 lacs In Shahdol town- Jawahar Navodaya Vidyalaya – 136 lacs</p> <p>-Skill development- in Shahdol town -14 lacs</p> <p><b>Detailed expenditure status toward health infrastructures:</b></p> <p>- At CHC, Burhar- <b>49.5 lacs</b></p> <p>-At Shahdol District hospital- <b>176 lacs</b></p> <p>The Sohagpur Area management has spent <u>Rs. 170 Lakhs</u> for education and skill development and <u>Rs. 225.5 Lakhs</u> for health infrastructure.</p>
7.	PP shall deploy 35 to 40 tonnes of trucks to reduce the fleet size	<p>The existing contracts for coal transportation are valid up to 30<sup>th</sup> Sep 2024.</p> <p>The deployment of 35 to 40 tons for coal transportation will be implemented in forthcoming contracts.</p>

8.	PP shall install wind barrier arrangement wherever required such as near to habitation and dust affected place.	The mine management has installed 14 feet high and 200-meter-long wind breaking wall all along the coal stock yard, near habitation and dust affected places. In addition to that, a green belt with more than 5000 native plants is also developed along the mine premises which eventually helps to minimize the air borne dust. (Photographs of wind breaking wall is enclosed as Annexure - VI).						
9.	<p>PP shall start road-side plantation with the native and medicinal tree only as mentioned in the below table:</p> <table border="1"> <thead> <tr> <th><i>Tree type</i></th> <th><i>Tree name</i></th> </tr> </thead> <tbody> <tr> <td><i>Native tree</i></td> <td><i>Sal, Arjun, Neem, Tendu, Mahua, Jamun, Eucalyptus, Bamboo</i></td> </tr> <tr> <td><i>Medicinal tree</i></td> <td><i>Amala, Ashwagandha, Amaltas, Palash, Karanj, Maharukh</i></td> </tr> </tbody> </table>	<i>Tree type</i>	<i>Tree name</i>	<i>Native tree</i>	<i>Sal, Arjun, Neem, Tendu, Mahua, Jamun, Eucalyptus, Bamboo</i>	<i>Medicinal tree</i>	<i>Amala, Ashwagandha, Amaltas, Palash, Karanj, Maharukh</i>	Along the coal transportation road, more than 17000 native and medicinal plants have been planted through MP Rajya Van Vikas Nigam Limited, Umariya division. These plantations are native plants and mix of Fruit Bearing tree (about 15 %), Medicinal plants (about 15 % - likes Neem, Karanj, Amla, Arjun etc.) Timber wood and Ornamental trees. (Photographs are enclosed as Annexure - VII)
<i>Tree type</i>	<i>Tree name</i>							
<i>Native tree</i>	<i>Sal, Arjun, Neem, Tendu, Mahua, Jamun, Eucalyptus, Bamboo</i>							
<i>Medicinal tree</i>	<i>Amala, Ashwagandha, Amaltas, Palash, Karanj, Maharukh</i>							
10.	PP shall establish in-situ laboratory for regular monitoring of drinking water to be supplied to near villagers through dedicated pipeline system	<p>The treated water supplied to nearby Khannath village through dedicated pipeline system are being monitored by NABL accredited lab of CMPDIL.</p> <p>The establishment of in situ laboratory is under process. Room for Lab has been established and equipments are being procured. (Photographs are enclosed as Annexure - VIII).</p>						
11.	PP shall submit the details of water recharge through ponds within and outside the mine lease area.	One rainwater harvesting structure with a roof top area of 125 Sq meter is constructed at Manager office of the Khairaha UG Mine for recharge of ground water table. Along with this, around 500 KLD treated mine water is also supplied to nearby Khannath village ponds for agriculture and other purposes, which also helps to maintain ground water table by recharging around 5000 KL water annually. (Photographs of Rain water harvesting and ponds is attached as Annexure IX)						

12.	PP shall submit the detail expenditure status of EMP and public hearing budget.	<p><b>Detailed expenditure status for EMP</b>  <u>Mine management has spent a total of Rs. 220.75 Lakhs on EMP activities.</u></p> <ol style="list-style-type: none"> <li>1. Construction of Settling tank: <b>15 Lakh</b></li> <li>2. Garland drain: <b>Approx 5 Lakhs</b></li> <li>3. Wind breaking wall: <b>21.20 Lakhs</b></li> <li>4. Installation of fixed water sprinklers: <b>5 Lakhs</b></li> <li>5. Procurement of mist fog machine: <b>38 Lakhs</b></li> <li>6. Construction/recarpeting of coal transportation road: <b>100 Lakhs</b></li> <li>7. Plantation work in Mine: <b>24.55 Lakhs</b></li> <li>8. EMP Data generation: <b>05 Lakhs</b></li> <li>9. EMP Cost: <b>07 Lakhs</b></li> </ol> <p>Detailed expenditure for compliance of Public hearing observations: <u>Total- Rs. 761.9 Lakhs</u></p> <ol style="list-style-type: none"> <li>1. Water supply: <b>3.9 Lakhs</b></li> <li>2. Filter plant for water supply to village: <b>317 lakhs</b></li> <li>3. Maintenance of public Road - <b>350 lakhs</b></li> <li>4. Water sprinkling- <b>approx. 50 Lakhs</b></li> <li>5. Wind breaking wall - <b>21.20 Lakhs</b></li> <li>6. Education in nearby villages and town - <b>approx. 20 Lakhs</b></li> </ol> <p>Out of the total above-mentioned expenditure, the mine management has spent about Rs. 200.75 Lakhs under EMP and more than Rs. 700 Lakhs on PH compliance activities in the last 5 Years.</p>
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**5.4.3** The Committee noted the following during the EAC meeting:

- i. Earlier, PP had obtained EC vide file no. J-11015/72/2004-IA-II (M) dated 11.01.2019 (Expansion in EC), and later extension of validity in EC on 10.01.2020 and latest EC under aforesaid OM issued on 13.12.2022.
- ii. PP has now submitted their application for consideration of 50% expansion in coal mining project.

**5.4.4** *The EAC after deliberations observed that instant project has been submitted in compliance of Ministry's OM dated 7<sup>th</sup> May, 2022 wherein expansion in capacity was granted in advance due to shortage of coal in the country and as per the condition contained therein. PP is required to submit the proposal within six months with preparation of EIA/EMP based on standard ToR. The EAC observed that EC under this OM was granted on 13<sup>th</sup> December, 2022.*

Earlier, Ministry issued EC vide letter dated 28.07.2005 (with Public Hearing), 11.01.2019 (Expansion in EC) & 10.01.2020 (Validity extension in EC) and latest EC under aforesaid OM was issued on 13.12.2022.

While discussing the compliance status, it was noted that 14 nos. of fixed type water sprinkler system has been installed and will be strengthened further. PP to install new settling tank for use of mine water. PP committed to install CAAQMS by February, 2024. Overall Committee found satisfactory compliances.

Based on the above, EAC recommended the proposal for grant of post facto Environmental Clearance for Khairaha Underground Coal mining project for increase in production capacity from 0.819 to 0.8775 MTPA (increase of 10% w.r.t 0.585 MTPA) in the mining lease area of 472.065 ha by M/s South Eastern Coalfields Limited with Production capacity from 0.819 to 0.8775 MTPA in the ML area 472.065 Ha located at Tehsil Burhar, District Shahdol (Madhya Pradesh), OM dated 7<sup>th</sup> May, 2022 and under provisions of EIA Notification, 2006 and its amendments therein with following additional specific conditions to be followed:

**Specific Conditions:**

- i. PP shall complete the installation process of CAAQMS in consultation of SPCB before February, 2024.
- ii. PP shall install sensor based fixed sprinkler system in order to conserve the water from unnecessary sprinkling.
- iii. PP shall deploy 35 to 40 tonne of trucks in order to reduce the fleet size.
- iv. PP shall develop environmental lab with adequate environmental monitoring instrument/equipment and deploy qualified manpower in its mine office instead of using laboratory of consultant for regular monitoring and analysis activity shall be done by March, 2024.
- v. PP shall protect/preserve 10 ha Sal nursery with capacity of approximately 1.0 lakh nos. Sal saplings and yearly minimum 10,000 saplings to be distributed among near villagers for afforestation purpose. The planted trees shall be geotagged and its status to be submitted to Ministry's Regional Office with six monthly report.
- vi. PP shall obtain No objection certificate from Central Ground water authority for expanded capacity.
- vii. PP to implement extra mitigation measures (such as installation of fog cannon, wheel washing facility, implementation of electric vehicle and others.) in order to reduce the pollution inside/outside the ML area in order to meet ambient air quality standards and a progressive report to be submitted to IRO, MoEF&CC.
- viii. PP needs to submit the audited figures against the expenditure and activities to be conducted for environment mitigation measures and addressing the issues of public hearing through dedicated monitoring mechanism. The maintenance of all activities raised in earlier PH, shall be covered through recurring cost of Public Hearing, which will be part of CSR budget.
- ix. PP shall create a "Public Grievance Redressal and Monitoring System" for resolving any issues related to the pollution of mines and complaint has to resolve as soon as possible not beyond 30

days. In this regard, adequate awareness to be spread among the public to address their grievance to company with simple and easy manner and for which company needs to devise the mechanism. The same shall be reported to IRO within 3 months. A logbook to be maintained by PP on “Public Grievance Redressal and Monitoring System.”

- x. PP shall submit status of audited report for progressive mine closure after commissioning of mine upto till date to IRO, MoEF&CC.
- xi. PP shall start reclamation of the mine with combination of top soil and Fly ash with the development of grazing facility and other activities to be considered from the progressive mine closure plan.
- xii. PP shall fulfill the water requirement for agricultural purpose by creating artificial ponds and shall fulfil the drinking water requirement after treatment through dedicated well or alternate sources for villagers.
- xiii. Water storage ponds shall be constructed of appropriate depth in nearby village in collaboration with Gram Panchayat.
- xiv. PP shall provide Quarterly health check-up with free medical facilities for the local villager’s surrounding to the 10 km buffer area along with the ambulance facilities.
- xv. PP shall establish a technical training institute in the area to train the local youth for better employment. A report shall be prepared & submitted upon the status of the training session already conducted in order to provide livelihood and skill development to near-by villagers to make them employable.
- xvi. PP needs to submit the compliance of SoP issued by CPCB regarding dumping of mine void with fly ash.
- xvii. The project proponent shall include development of solar parks, eco-friendly-parks, fish farming pond, picnic spot and sports compound in its Mine Closure Report. Further if possible, maximum possible area of quarry shall be brought upto original ground level and handover the land to Project affected Families.
- xviii. Proper garland drain and retaining wall should be made (if required) and same should be revived from time to time.
- xix. PP to complete the tree plantation particularly fruit bearing tree along the village road and safety zone and submit its status to Ministry’s Regional Office. The plantation shall also be planted along the Mine boundary and Mine pit. A detailed report with GIS images of every six months subsequently be submitted in every six monthly report to justify the adequate tree plantation.
- xx. PP shall increase number of fixed type sprinkling system (near to haul road, stockyard, transportation route etc.) across the mine lease area in order to arrest the dust coming out from the mining activities.
- xxi. PP shall install 100 m jet spray length in order to arrest the heavy air pollution on the roads and other dust generating points. More number of Fog cannons, Road sweeper and Mobile water sprinklers to be used on road.
- xxii. PP shall construct 25-sitting digital library in each village including the daily newspaper facility.

- xxiii. *PP shall conduct third party audit of compliance of EC condition at an interval six months and its report shall be submitted to IRO, MoEF&CC.*
- xxiv. *PP to maintain the topped haul road properly to minimized the dust emission. PP to also develop pucca roads by seeking consent from the panchayat with widening of roads especially roads inter linking the villages within the study area of 10 km radius buffer zone.*
- xxv. *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.*
- xxvi. *PP to provide bio toilets to the villages located within the study areas within 1 year from the grant of this EC.*
- xxvii. *PP shall install fixed type water sprinklers all along the coal stock yard and along coal transportation road of the mine to avoid generation of air borne dust. PP shall also install high-capacity pressurized mist type mobile water tanker in order to control fugitive dust emission and minimization of coal dust deposition efficiently while consuming less quantity of water.*
- xxviii. *PP shall maintain Garland drain in good condition. The maintenance, strengthening and cleaning of Garland drain shall also be completed as per the monsoon preparation plan. For settling of runoff water 03 nos. surface settling tanks to be provided before the coming monsoon season.*
- xxix. *PP shall maintain the ETP (Oil and grease trap) in good condition for treating waste water generated from workshop and washing ramps at Khairaha UG Mine.*
- xxx. *PP shall complete the thick green plantation on 11.432 ha, in addition to that plantation all along the route of coal transportation road to be planted.*
- xxxi. *PP shall submit report to IRO after auditing figures for the amount allocated for infrastructure construction at Nehru Degree college (16 Lacs), Khannath village school (04 lacs), Shahdol town- Jawahar Navodaya Vidyalaya(136 lacs) and Skill development - in Shahdol town (14 lacs).*
- xxxii. *PP shall also submit report to IRO after auditing figures for the amount spent for the development of health infrastructures at CHC, Burhar (49.5 lacs), Shahdol District hospital (176 lacs).*
- xxxiii. *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.*
- xxxiv. *PP shall explore atleast 20% of overall fleet of dumpers/trucks/other vehicles as electrical or CNG/LNG based for transportation of coal/OB etc.*
- xxxv. *PP shall conduct feasibility studies for assessment of voids for backfilling of ash and mixing of ash with overburden, taking up backfilling ash and OB mixing activities during operations as well as post closure of mines in line with the Fly Ash Utilization Notification, 2021.*
- xxxvi. *All the other terms and conditions of earlier EC dated 11.01.2019 (Expansion in EC) 10.01.2020 (Validity extension in EC) and latest EC under aforesaid OM was issued on 13.12.2022 shall also be complied.*

## Agenda No. 5.5

**Expansion of Amelia (North) combined OC & UG coal mine with increase of production capacity from 3.36 MTPA to 3.92 MTPA in Mine Lease Area of 728.75 ha by M/s Jaiprakash Power Ventures Limited at Village Majhauri, Tehsil Deosar, District Singrauli (Madhya Pradesh) – Reconsideration for Environmental Clearance under OM dated 11.04.2022 (Stage-II expansion) reg.**

**[Online Proposal No. IA/MP/CMIN/444292/2023; File No. J-11015/355/2006-IA-II (M)]**

**5.5.1** The proposal is for Environmental Clearance for Amelia (North) combined OC & UG coal mine with increase of production capacity from 3.36 MTPA to 3.92 MTPA in Mine Lease Area of 728.75 ha by M/s Jaiprakash Power Ventures Limited at village Majhauri, Tehsil Deosar, District Singrauli (Madhya Pradesh).

**5.5.2** Earlier, the proposal was considered in the 3<sup>rd</sup> EAC meeting held on 16-17 November 2023 wherein the committee deferred the proposal for certain information. The project proponent has submitted the information on PARIVESH Portal, the point-wise reply of EACs observation is as follows:

<b>S.No.</b>	<b>Observation of EAC</b>	<b>Reply by PP</b>
1.	PP should submit the status of court case listed before Supreme court related to the C.A. No. 6233/2019 "M/s Jaiprakash Power Ventures Ltd. Vs Human Right Redemption Social Welfare Association of India and Ors."	A Civil Appeal No. 6233/2019 has been filed in the Hon'ble Supreme Court. The Hon'ble Supreme Court has stayed the judgment Order 04.07.2019 of National Green Tribunal. The Hon'ble SC released the order dated 10.10.2023 and directed Union of India to file an affidavit stating the manner in which they proposed to modify lease. The Union of India/ Ministry of Coal submitted an affidavit describing " <i>The appellant has also stated that as per the directions of this Hon'ble Court, an application along with a plan indicating area which is being excluded from the existing lease area and the documents have been submitted with the District Mining Office, Singrauli regarding amendment in mining lease area of Amelia (North) Coal Mine.</i> " The case has been scheduled for further hearing on 27.02.2024 and the case is pending before Hon'ble Supreme Court.
2.	PP should submit the protection plan for Kanchan river by making river safety barrier 100m apart from mine boundary as well as from Toe of dumping and Near dump area to be densely planted (by Miyawaki method) with native species.	<b>A. Protection &amp; Safety barrier measures:</b> <ul style="list-style-type: none"><li>Retaining walls of 3209 m long (height 2 m, base width 2.45 m &amp; top width 0.45 m) and 3630 m length of Gabion walls (height 3-4 m, width 1-3 m) at the toe of external overburden Dump 'A' &amp; 'B' have already been constructed to check run-off, settle suspended solids and to protect Kanchan River (detail in <b>Reply 4</b>).</li><li>A Riverine/Riparian Ecosystem Conservation and Management Plan is being prepared in consultation with Water Resource Department Singrauli by M/s Green C</li></ul>



		<p>India Pvt. Ltd. considering the safety barriers and protection measures such as Retaining Wall, Gabion Walls, Garland Drains, Settling Ponds for siltation of storm rainwater etc.</p> <p><b>B. Dense Plantation Programme:</b></p> <ul style="list-style-type: none"> <li>• A plantation programme for dumps area has been prepared under Mine Closure Plan and approved by competent authority. The plantation work is being done accordingly.</li> <li>• However, a plantation programme has also been prepared by M/s Green C India Pvt. Ltd. for near dump area with native species by Miyawaki Forest Plantation Method (details given in <b>Reply 4</b>).</li> </ul>
3.	PP should prepare plan for construction of civil works in consultation with State department.	PP has in-house expertise in constructing various civil works such as Expressways, Hydropower Projects and Real Estate Developments, without the need to consult with State Department. The company is committed to complying with the rules and regulations of both the central and state governments and using best applicable practices.

4.	PP should assign appropriate budget for construction of safety barrier and for dense plantation in order to protect Kanchan river.	<p><b>A. Construction of Safety barrier:</b></p> <ul style="list-style-type: none"> <li>The following have been made at toe of external overburden Dump ‘A’ &amp; ‘B’ <ul style="list-style-type: none"> <li>Retaining walls of 3209 m long (2 m height, 2.45 m width at base and 0.45 m width at the top) have been constructed to check run-off and settle suspended solids in run off.</li> <li>Gabion walls 3630 m length with height (3-4 m) and width (1-3 m) to protect the Kanchan River.</li> </ul> </li> </ul> <p>Expenses for Safety barrier for protection of Kanchan River already incurred by us are as under: -</p> <table border="1"> <thead> <tr> <th>S.No.</th> <th>Particulars</th> <th>Amount (Rs.)</th> </tr> </thead> <tbody> <tr> <td>1.</td> <td>Construction of Toe wall (RR Masonry Retaining wall)</td> <td>7,23,08,793</td> </tr> <tr> <td>2.</td> <td>Construction of Settling ponds</td> <td>17,23,516</td> </tr> <tr> <td>3.</td> <td>Construction of culverts</td> <td>36,61,555</td> </tr> <tr> <td colspan="2"><b>Total</b></td> <td><b>7,76,93,864</b></td> </tr> </tbody> </table> <p>Photographs of Retaining wall and Gabion walls are enclosed.</p> <p><b>B. Budget for dense plantation:</b></p> <ul style="list-style-type: none"> <li>Budgetary Provision for dense plantation by Miyawaki Forest Plantation Method near dump area with native species will be approximately <b>Rs.1.10 Crores</b>, break up has been enclosed.</li> </ul>	S.No.	Particulars	Amount (Rs.)	1.	Construction of Toe wall (RR Masonry Retaining wall)	7,23,08,793	2.	Construction of Settling ponds	17,23,516	3.	Construction of culverts	36,61,555	<b>Total</b>		<b>7,76,93,864</b>
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5.	PP should submit the photographs and recorded drone video of the Kanchan river joining the ML area.	<ul style="list-style-type: none"> <li>The recent photographs from camera are shown in slides.</li> <li>Drone video has also been prepared and presented during EAC meeting.</li> </ul>															
6.	PP shall submit time series picture (before and after) of the reclamation of overburden dump.	<ul style="list-style-type: none"> <li>Time series picture (before and after) of the reclamation of overburden dump are attached.</li> <li><b>Year Wise plantation photographs are enclosed.</b></li> </ul>															
7.	PP shall submit the time line for completing the development of eco-park as per EC condition and	<ul style="list-style-type: none"> <li>Eco-Park has been developed in 2.0 ha area with total 14000 nos. of herbal &amp; medicinal plants including Aloe vera, Arjuna, Green Chireta, Lemon Grass,</li> </ul>															

	development of 11 ha of plantation with native species.	Terminalia, Texas Sage etc. The balance area of 3.0 ha. area will be developed by January 2025. <ul style="list-style-type: none"> <li>The plantation in 11.00 ha area will commence from 2031-32 and will be continued upto 2035-36 with native species of plants.</li> </ul>
8.	PP shall clarify the discrepancy of mine lease area of 728.75 ha and submission of land use while mining as 819.6 ha and virgin area of 61.15 ha.	The information submitted against Q 37 “Land use while mining” in “Basic information” has been checked and presented in table below. The total ML area is 728.75 Ha.

**5.5.3** Committee noted the following during the EAC meeting:

- i. Earlier, PP had obtained EC for production capacity of 2.8 MTPA vide MoEF&CC’s File No. J-11015/355/2006- IA. II(M) dated 20.07.2007.
- ii. FC and EC were transferred from M/s Madhya Pradesh state Mining Corporation to M/s Jaiprakash Power Venture Limited vide letter dated 11.05.2015 and 13.05.2015 respectively.
- iii. PP has obtained EC for stage I - expansion for increase in production capacity from 2.8 to 3.36 MTPA issued on 16.01.2023 under the provisions of 7(ii) of EIA Notification 2006 under OM dated 11<sup>th</sup> April, 2022 without any change in project/mine lease area.
- iv. Forest clearance for the entire Mining lease area of 728.75 ha has already been obtained vide letter dated 30.11.2012.
- v. PP has now submitted the EIA-EMP report for expansion of production capacity from 3.36 MTPA to 3.92 MTPA (i.e. 40% expansion to base capacity).
- vi. PP has submitted the eexpenses for Safety barrier for protection of Kanchan River are as under:  
-

S.No.	Particulars	Amount (Rs.)
1.	Construction of Toe wall (RR Masonry Retaining wall)	7,23,08,793
2.	Construction of Settling ponds	17,23,516
3.	Construction of culverts	36,61,555
	<b>Total</b>	<b>7,76,93,864</b>

- vii. PP has submitted an approximately Rs. 291 lakh capital cost for EMP, which has been revised to Rs. 350.55 lakh as a Capital investment and corresponding 175.73 lacs as recurring expenditure for proposed expansion as given below:

Sl. No.	Particulars	Capital Cost, Rs. lakhs	Annual Recurring Cost, Rs. lakhs

<b>1</b>	<b>ENVIRONMENTAL EXPENSES</b>		
	Plantation related purchases for celebration of occasion, media for WTP, Continuous Ambient Air Quality Monitoring Station, Peizometer construction with telemetric device	56	28.02
	Environmental Monitoring (Air, Noise, Water & Waste water, Soil, DG Stack, DG Noise, O&M STP & ETP)		
<b>2</b>	<b>PLANTATION</b>		
	Seed, fertiliser, plants, bags, cutters, fawda, pots & other horticulture items	4	19.83
	Water tanker hiring, tractor hiring		
<b>3</b>	<b>MINING RESTORATION ACTIVITIES</b>		
	Construction of minor structures, purchase of PC & its parts	290.55	127.88
	Water sprinkler O&M, AMC charges, hiring of machines, diesel charges, lab costs, etc		
	<b>TOTAL</b>	<b>350.55</b>	<b>175.73</b>

**5.5.4** The EAC, after deliberations observed that instant project is for expansion upto 40% (Stage-2) under OM dated 11.04.2022 under para 7(ii) of EIA Notification, 2006. The Committee noted that a court case pending before Supreme court in a matter of "M/s Jaiprakash Power Ventures Ltd. Vs Human Right Redemption Social Welfare Association of India and Ors" (C.A. No. 6233/2019). Main issue pertains to the protection of Kanchan river from mining activities. The Hon'ble SC vide order dated 10.10.2023 directed Union of India to prepare Mining plan after excluding area of the river. Thereafter Ministry of coal has filled the affidavit and the same was recorded in the Hon'ble Court vide order dated 05.12.2023. The case has been scheduled for further hearing on 27.02.2024 and the case is pending before Hon'ble Supreme Court.

The Committee took a note of above case and observed that direction of supreme court is to curtail the vulnerable mine area which likely to impact the river and for which PP has already earmarked the land. Accordingly mine plan shall be modified subject to change in mine lease. As per PP, the exercising change in mine plan and mine lease shall take considerable time and meanwhile; PP is to execute the mining activity as per the existing mine plan, and mining activity away from the affected zone of Kanchan river. PP also informed that peak production of this calendar year has already been achieved and to meet energy demand PP intends to go for higher production through expansion of EC. The Committee suggested to complete the dense plantation all across the bank of Kanchan river including Toe of dumping. The Committee advised for Miyawaki method for dense plantation with native species. It was advised to restrict all mining activity excluding the stabilised dump area along the river from the ML area of 728.75 ha only.

The Committee noted that PP has already submitted the adequate measures for protection of Kanchan river and proposed for providing financial support in river revitalisation program, which is under preparation. The Committee also found satisfactory compliance report from IRO. Further, the Committee suggested to implement the river revitalisation plan as per the direction given by the NGT time to time.

Based on the above discussion, EAC recommended the proposal for expansion of Amelia (North) combined OC & UG coal mine with increase of production capacity from 3.36 MTPA to 3.92 MTPA (Stage II) under Ministry's OM dated 11.04.2022 in total ML area of 728.75 ha by M/s Jaiprakash Power Ventures Limited at Village Majhauri, Tehsil Deosar, District Singrauli (Madhya Pradesh) under the provisions of Environment Impact Assessment Notification, 2006 and its amendments therein with following additional specific conditions to be followed:

**Specific Conditions: -**

- i. PP shall obtain the CTO for the production capacity upto 3.92 MTPA.
- ii. PP shall comply the direction/ outcome of court case pending before Hon'ble Supreme court related to the C.A. No. 6233/2019 "M/s Jaiprakash Power Ventures Ltd. Vs Human Right Redemption Social Welfare Association of India and Ors".
- iii. PP shall obtain modification of EC in case of change of mine plan as approved by MoC respective mine lease by the State.
- iv. PP should implement the mitigation measures in order to protect Kanchan river and Kanchan reservoir from the existing OB dumps from any kind of contamination to River/Stream.
- v. PP should complete the plantation upon the nearest dump area to the Kanchan river during the monsoon of 2024
- vi. PP shall submit the status of expenses as noted as per the above para no. 5.5.3 (vi) of the Minutes to IRO, MoEF&CC.
- vii. PP shall complete the eco-park development within 11 ha with native species before January 2025.
- viii. PP should construct dedicated road for the transportation of coal within the ML area and outside ML area till National Highway and adopt measures for mitigation air pollution including green belts, wind barriers and fog cannons.
- ix. PP shall submit the status of expenditure plan for the already allocated Public Hearing Budget including the amount that has been spent already or going to spend in future.
- x. PP shall implement the EMP budget (as per the para no. 5.5.3 (vii) of the Minutes) and shall create a "Public Grievance Redressal and Monitoring System" for resolving any issues related to the pollution of mines and complaint has to resolve as soon as possible not beyond 30 days. In this regard, adequate awareness to be spread among the public to address their grievance to company with simple and easy manner and for which company needs to devise the mechanism. The same shall be reported to IRO within 3 months. A log book to be maintained by PP on "Public Grievance Redressal and Monitoring System.
- xi. Top soil should be stored separately at marked area for spreading over the reclaimed dumps (both internal & external) and necessary vegetation shall be raised and maintained to avoid any entrainment of dust.

- xii. *Mining of coal shall be carried out only by surface miners for the project (as proposed) and silo loading till railway siding through in-pit conveyor should be installed to avoid road. No road transportation shall be conducted.*
- xiii. *PP to upload the monitoring data of 4 nos of continuous ambient air quality with server of CPCB and SPCB. The real time data so generated shall be uploaded on company website. In addition, data should also be displayed digitally at entry and exit gate of mine lease area for public display.*
- xiv. *PP should Install Wind breaker/shield arrangement along the railway siding for reducing the dust propagation in upwind direction.*
- xv. *PP shall display the CAAQMS data at entry and exit gate of mine office and shall be share with the SPCB/CPCB.*
- xvi. *PP should install fixed Fog cannons within the ML area and movable fog cannons to be deployed for the Mines, haul road, CHP area and other required area.*
- xvii. *PP shall strictly implement the recommendation of Riverine/Riparian Ecosystem conservation & Management Plan.*
- xviii. *PP shall install fixed fog cannon (mist sprayer) all along the haul road till CHP, Railway siding and OB Dump area and accordingly sufficient number of fog cannons (not less than 10 nos.) with 40 mts jet length shall be installed within 6 months. It should be ensured that air pollution level confirm to the standards prescribed by the MOEFCC/CPCB.*
- xix. *PP to develop an ECO park with separate area of 5 ha for medicinal and herbal species within two years.*
- xx. *Progressive backfilling of mine and progressive reclamation by conducting tree plantation of OB dump shall be done.*
- xxi. *Hon'ble Supreme Court in an Writ Petition(s) Civil No. 114/2014, Common Cause vs Union of India & Ors vide its judgement dated 8th January, 2020 has directed the Union of India to impose a condition in the mining lease and a similar condition in the environmental clearance and the mining plan to the effect that the mining lease holders shall, after ceasing mining operations, undertake re-grassing the mining area and any other area which may have been disturbed due to their mining activities and restore the land to a condition which is fit for growth of fodder, flora, fauna etc. Compliance of this condition after the mining activity is over at the cost of the mining lease holders/Project Proponent". The implementation report of the above said condition shall be sent to the Regional Office of the MoEFCC.*

### **Agenda No. 5.6**

**Gondkhari Underground Coal Mine of production capacity 2.0/3.0 MTPA (Normative/Peak) in the mine lease area of 862.00 Ha of M/s Adani Power Maharashtra Limited (APML) located at Village Gondkhari, Tehsil Kalmeshwar, District Nagpur (Maharashtra) – Reconsideration for Environmental Clearance reg.**

**[Online proposal No. IA/MH/CMIN/444481/2023; File no. J-11015/46/2022-IA. II. (M)]**

**5.6.1** The proposal is for Environmental Clearance for Gondkhari Underground Coal Mine of production capacity 2.0/3.0 MTPA (Normative/Peak) in the mine lease area of 862.00 Ha of M/s Adani

Power Maharashtra Limited (APML) located at Village Gondkhari, Tehsil Kalmeshwar, District Nagpur (Maharashtra).

**5.6.2** Committee during the EAC observed the followings:

- i. Earlier, the proposal was considered in the 1<sup>st</sup> EAC meeting dated 17.10.2023 wherein the committee had deferred the proposal for submitting the information. The PP has submitted the reply on Parivesh portal vide letter dated 30.11.2023 as mentioned below:

<b>S. No.</b>	<b>Observation of EAC</b>	<b>Reply by PP</b>
1.	PP to submit the Drone videos & Photographs of the Forest area (lying within the ML area) including Lake/Reservoir/Dam and the other sensitive zone.	Detailed drone survey has been carried out covering the complete project area i.e. 862 ha including Forest Area and all the water bodies like Surabardi Lake, Alesur Lake and Surface topography and other area in and around the ML area. Drone images has been enclosed.
2.	Status of Forest Clearance for 87.351 ha of forest land involved in the ML area of 862 ha	The Forest diversion proposal no. FP/MH/MIN/QRY/408247/2022 has been forwarded by Under Secretary (Revenue and Forest Department) Govt. of Maharashtra to the Secretary, MoEF&CC, GOI vide letter no. FLD-3423/CR-310/F-10 dated 21.11.2023. At present, as per the latest update as on date 14.12.2023 the proposal under consideration at IGF MoEF&CC HQ, after FAC meeting for stage-I approval.
3.	PP shall submit Letter of Intent from concerned State Government as per Ministry's OM dated 7 th October, 2014.	Kindly refer letter no. MNG-1222/C.R.235/Ind-9 (A) dated 20.09.2023 of Joint Secretary, Govt. of Maharashtra wherein the government has granted in-principle approval to enter into a lease agreement subject to fulfilment of prior requisite conditions which include Environmental Clearance, Forest Clearance, etc.
4.	PP shall submit the approved Mine Plan chart for 3 MTPA peak capacity with calendar plan.	Mine plan has been prepared for 2.0 MTPA capacity, mining operation will also carry out at 2.0 MTPA capacity only and similarly EIA has been prepared for 2.0 MTPA. However, as per MOC office memorandum vide letter no. F.No.34011/28/2019-CPAM appendix No-I, page no.-11 of 39 dated 29/05/2020. MOC mandate to show the 150% of rated capacity on the cover page of the mine plan shows i.e, peak capacity will be 3 MTPA as per MOC mandatory provisions. MoC guideline has been enclosed.

		Similarly, Mine plan approval letter granted by MoC for rated capacity of 2.0 MTPA and peak capacity of 3.0 MTPA. – EC has been applied for the proposed capacity of 2 MTPA Since mining will be restricted to 2.0 MTPA, calendar plan for coal production with a targeted capacity of 2.0 MTPA.
5.	Details of Pre-mine land use and post mine land use plan keeping the area occupied by Dam/Lake/Reservoir to be same with all protection measures.	Total mining lease area is 862 ha out of which 13.89 ha. area is occupied by Water bodies like lake, reservoir, etc. as per the pre mining land use pattern. The water bodies will remain undisturbed during operation is as no working is being done below the water bodies and end of life of mine. However, we APML has proposed various mitigation measures for rejuvenation of the water bodies and a budget of Rs. 3.64 Crores has been earmarked; detailed land use plan has been enclosed.
6.	PP shall submit the Geo-tagged location of the lake/reservoir/Dam namely Ambazari, Bhivkund Dam, Futala Lake, Alesur Local Lake, Mordham Dam and Reservoir, Suraburdi Lake, Vena Dam, Jilpi Lake w.r.t. the ML area.	Geotagged locations of the Water bodies namely Ambazari, Bhivkund Dam, Futala Lake, Alesur Local Lake, Mordham Dam and Reservoir, Suraburdi Lake, Vena Dam, Jilpi Lake, along with photographs are separately attached herewith in respect to the mine lease area.
7.	As suggested by EAC, PP shall submit lake rejuvenation plan with detailed plan with adequate budgetary allocation.	As desired by EAC, detailed Lake rejuvenation plan has been prepared and revised by NABET accredited and CGWA approved expert, Mr. Nawal Kishore Prasad, the measures suggested are as follows  Biological Measures: 1. Greenbelt development & Catchment Treatment Plan. 2. Annual maintenance cost of respective water reservoir including collection of garbage and other trash around periphery of reservoir. 3. Complete diversion of domestic waste and sewage entering into the lake. 4. Removal of the organic-rich sediment through biological treatment. 5. Removal of weeds.



		Estimated Cost for Biological Measures has been enclosed.
8.	PP shall submit details of new water harvesting facilities (ponds) with protection of Dam/Lake/Reservoir lying within the ML area & in Buffer zone.	<p>As per the detailed study conducted by the expert, there are total 18 numbers of check dams constructed in and around mine lease area by State Government. However, there is need for rainwater harvesting in the villages where water supply is made with ground water through bore wells. Rainwater harvesting facilities survey was carried out in the surrounding 9 villages (Kalambi, Surabardi, Alesur, Khapri, Sahuli, Khadgaon, Waddhamana, Gondkhairi, and Ketapar), out of which 3 villages (Kalambi, Surabardi, Alesur) are having Government Tap water supply from surface water and rest 6 Villages (Khapri, Sahuli Khadgaon, Waddhamana, Gondkhairi, and Ketapar) are dependent on ground water through bore wells. Accordingly, it is essential to supplement ground water resource through rainwater harvesting. The Rainwater Harvesting scheme has been done by using State Schedule of Rate 2022-23 (PWD) Govt. of Maharashtra. Detailed rainwater harvesting plan along with protection of Dam/Lake/Reservoir lying within the ML area (Core Zone) &amp; in Buffer zone given in page 19-22 of Detailed Lake rejuvenation plan (Annexure-VII) and budgetary provision of same is Rs. 36,34,264 (Thirty-Six Lakhs Thirty-Four thousand Two Hundred and Sixty-Four only). Cost Estimate for Rain-Water Harvesting Unit Village is given below Table:</p> <p>Cost Estimate for Rain-Water Harvesting Unit has been enclosed.</p>
9.	PP shall submit proper layout surface plan for construction of infrastructure on the Mine lease without affecting forest land.	This is an underground coal mining project having ML area is 862 Ha out of which only 18 ha. (non-forest) area will be utilized for infrastructure facilities. Further, we affirmed that, Forest area will not be disturbed for construction of infrastructure facilities and mining operation.

		<p>Layout surface plan showing proposed infrastructure area without affecting forest land has been enclosed.</p>
10.	<p>PP shall re-asses option analysis to reduce the distance being covered for the transportation of coal through road and with mid-term plan of railway siding by rail transportation</p>	<p>APML has approached Indian Railways regarding the feasibility of pit head railway siding, same was under the consideration for techno- economical viability.</p> <ul style="list-style-type: none"> <li>• The major constraint for the construction of railway siding is not viable at this juncture as all the allocated cluster of mines around the Gondkhari project have not been consolidated. Moreover, the nearest Kalmeshwar railway siding approx 19.0 kms from the project side is well connected through existing roads, which will be used for the transportation of coal by APML.</li> <li>• As the Coal mining will be done for a small quantity of 2.0 MTPA, which is tentatively 6,060 TPD during peak production which will be achieved in the 4 th year of operation. Life of mine is only 30 years (including construction period).</li> <li>• It is proposed to utilize 40-45 tonnes dumpers for transportation of coal to the nearest railway siding, i.e. Kalmeshwar which is at a distance of 19.00 kms (road distance) from the mining lease boundary.</li> <li>• Existing facilities, Kalmeshwar Bypass road (SH-248) will be used for transportation of the coal. Traffic survey has been carried out and the existing road has adequate carrying capacity for handling the additional load of 12 dumpers/hr. (i.e 45 T). Mineral transportation will be done in a manner to ensure that local community will not be disturbed. (Detailed Coal Transportation through Road Cum Rail Mode study report attached herewith).</li> </ul> <p>Following measures are further proposed to strengthen the road:</p> <ol style="list-style-type: none"> <li>1. Existing road will be maintained periodically as an when required.</li> </ol>

		<p>2. Adequate and planned road network will be set up within the project site for smooth movement of the goods vehicles.</p> <p>3. Greenbelt will be developed/strengthened along both sites of road.</p> <p>A budget of Rs.2.50 Cr has been earmarked for strengthening of existing road.</p> <p>A detailed study for “Coal Transportation through Road Cum Rail Mode” by M/s Acuity Infrastructure Management Services LLP has been carried out and the study concluded the option of construction of a railway siding and railway line connecting to the main line at Kalmeshwar is not techno economically viable for the project due the following reasons:</p> <p>I. The total cost of production including the cost of construction of the railway siding and the railway connectivity through the block will be much more than the average sale price of the present grade of coal to be produced from the mine.</p> <p>II. Construction of a railway siding and a railway line passing through the coal block will not only sterilize substantial amount of coal reserves but also involve huge expenditure for acquiring of land, R &amp; R and other related costs making it economically unviable. Hence once overall allocation of coal block is completed than railway and to go for holistic approval for railway siding near to block.</p> <p>III. The capacity of the mine is 2.0 MTPA i.e., about 6060 TPD which will cater to the needs of the nearby industrial users and will not be enough to be transported through rail regularly.</p>
11.	PP shall submit compliance of ToR specific conditions (xiii), (xvii) and (xix) with detail analysis and report with certificate from PCCF regarding	Mining technology/methodology of Longwall (Retreating) Underground Mining have been adopted for Gondkhari Coal Block In the adopted longwall-mining with caving as method of

<p>absence of Schedule-I specifies as per WPA 1972 and 2022. Further, the comparison of existing mining practices of Underground mine across the world mainly in terms of extraction of higher coal efficiency and in terms of consumption of lesser fuels.</p>	<p>extraction does cutting of coal in slices in designated area referred to as a panel (of solid coal). As the panel is mined, complete caving of the overlying rock strata occurs into the mined-out area behind the working mine face. The roof of the panel is supported by hydraulically powered; self-advancing roof supports attached to the mining machine. As the mining machine advances into the solid coal panel, the roof supports also advance keeping overburden from collapsing into the exposed face of the coal. At the same time, the roof left unsupported is allowed to break and cave immediately behind the support line with each face advance supporting the strata above in the roof. The depth of working varies from 169m to +394m. Subsidence prediction studies is done by IIT, Kharagpur and has reported no subsidence over the over surface due to underground mining. The transportation of coal is proposed by series of conveyors and men transportation is proposed by chair lift car &amp; mine cruisers arrangements. The material is proposed to be transported by Track haulage system.</p> <p>Associated environmental benefits.</p> <ol style="list-style-type: none"> <li>1. Since it is an underground mining method, the disturbance in surface area of granted mining lease is to the minimum level as 18 Hectares of land is required for surface infra, whereas the remaining land will be unaffected by underground mining.</li> <li>2. The proposed mining method produces coal via cutting not by blasting, hence ground vibration and its effect on surface &amp; nearby structure is to the minimum effect.</li> <li>3. The proposed mining method uses mining equipment powered by electricity; hence environmental impact due to use of energy is again to the minimum effect.</li> <li>4. Less air pollution &amp; carbon footprint.</li> <li>5. No disturbance of the forest land, flora &amp; fauna.</li> <li>6. Lesser waste generation</li> </ol>
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	<p>In view of the eco-friendly method mining adopted as well as measures proposed to be adopted, there will be a saving of about 1,38,875 Tonnes of CO2 equivalent. Thus, it can be concluded that Gondkhari Coal Block is adopting measures to avoid contributing to climate change to the extent possible when compared to similar conventional coal mines (opencast and conventional underground mines running on fossil fuels). Detailed study for Environmental Benefits of Mining Technology Adopted for Gondkhari Coal Mine from Climate Change Perspective is summarized below and enclosed as Annexure- X.</p> <p>Cumulative savings in GHG emission due to UG mining technology has been enclosed.</p> <p>All the equipment installed for operation of Gondkhari mine will be operated through electricity. Hence, no specific diesel consumption is expected for mining operation thus resulting into saving of diesel &amp; thus saving GHG emission form diesel.</p> <p>It is expected to save diesel of about 1.6 million liters per annum for peak production of 2 MTPA. However, diesel consumption is required only for transportation of coal from mine lease to nearest railway siding.</p> <p>To reduce the same it has been proposed to replace the diesel operated with LNG fuel power-based trucks in phased wise manner for Coal transportation from pit to railway siding.</p> <p>Year wise target for reduction in the specific diesel consumption is furnished below:  From the 3<sup>rd</sup> year reduction in diesel consumption by 10% of present diesel consumption (1.1 lit/ton of coal). From the 5<sup>th</sup> year reduction in diesel consumption by 30% of present diesel consumption (1.1 lit/ton of coal). From the 7<sup>th</sup> year reduction in diesel consumption by 50% of present diesel consumption (1.1 lit/ton of coal).</p>
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		<p>The detailed list of faunal species in core and buffer zone submitted at DCF, Nagpur Circle, Nagpur vide letter no. APMML/GDK/2023/020 dated. 10.11.2023 (Acknowledged copy of letter along with list of fauna within the study area and wildlife management plan enclosed as Annexure-XI) and certificate from PCCF awaited. Wildlife conservation plan for total 10 Schedule-I (Indian peafowl, Bengal Monitor Lizard, Shikra, Common Mongoose, Indian Cobra, Common Rat Snake, Russell's Viper, Indian Jackal, Jungle Cat, Sambar deer) species has been prepared along with the total Rs.10.0 Lakhs capital and Rs. 2.0 Lakhs recurring cost.</p>
12.	PP shall submit the signed copy of Corporate Environment Policy from its Board of Directors.	- The signed copy of Corporate Environment Policy from its Board of Directors has been enclosed.
13.	PP shall analyse the possible adverse impacts on forest corridors and forest areas and their mitigation measures by fencing all along the forest area, due to transportation activity	<p>Existing Kalmeshwar four-lane Bypass road (SH-248) will be utilized for transportation of the coal. The Project Proponent (PP) will not diverted or created new transportation road nearby the forest land. However, we will be proposed following mitigative measures</p> <ol style="list-style-type: none"> <li>1. Project Proponent will be raising the awareness among local villagers, mine personnel and truck drivers about the importance of the local ecosystem and promote the social forestry drive.</li> <li>2. Greenbelt development along with the road side area.</li> <li>3. Dust suppression alongside the road.</li> </ol> <p>This is an underground mining project. The surface mining related activities is confined only in 18 Ha, which is non-forest area. Revenue Forests (Total forest area 87.351 Ha.) Land subsisted in patches within the ML area. M/s. APMML herewith committed that no revenue forest within ML area will be disturbed due to mining operation as well as transportation activities.</p> <p>Further, to note that, Reserve Forest within study area is as under:</p>

		<p>1. Bazargaon RF – 5.1 (W)  2. Madhogarh RF – 9.7 km (W)  3. Open Mixed Jungle – Gorewada 6.3 (ENE)</p> <p>There will not be any adverse impact on forest within study area as the incremental concentrations are well within the stipulated standards.</p> <p>Further, fencing can fragment wildlife habitats and disrupt natural migration patterns of local fauna, which can have negative effects on local flora and fauna within the ML area. Fences can prevent the movement of local fauna, being forest are present in patches 87.351 Ha. in Mine area.</p>
14.	PP shall submit the location of Ambazari Ordinance Factory w.r.t. ML area and mitigation measures considering the sensitivity of this location.	<p>The distance of Ambazari Ordinance Factory is approx. 3 Km towards East direction. Hence, insignificant impact is envisaged due to the proposed underground mining activities.</p> <p>There will not be any ground vibrations due to blasting as Long Wall operations method will be implemented.</p> <p>Map showing distance and direction from ML area, which has been geo-rectified.</p>
15.	PP shall document the exact number of persons/families under socio economic survey living within the ML area and living within the Buffer zone of the ML area	<p>As per socio-economic survey the details of person and families in the Mine Lease (ML) area and the Buffer zone was studied and summarized as under:</p> <p>*The recent field survey documented the absence of local inhabitants within the ML area. Despite the lack of residential presence, the area within the ML boundary is mainly used for agricultural purposes as well as grazing domestic animals. Furthermore, the southern part of the mine lease area is near to highway and has various shops and Godowns/warehouses hinting at a multifaceted utilization of the space besides residential purposes.</p> <p>Persons/Families living within ML area has been enclosed.</p>
16.	PP shall submit mitigation plan for nearby villages w.r.t. higher observed value of pollutants in the Gondkhari area.	<p>The average value of PM10 at Gondkhari is 74.5 microgram/m<sup>3</sup>. However, the maximum value above 80 microgram/m<sup>3</sup> was reported only at 5 days within baseline monitoring period because of</p>

		<p>following reasons: Reasons for Higher Values of pollutants in Gondkhari area is Gondkhari Village area located near NH-6 (Amravati – Nagpur National Highway). Heavy traffic movement were observed along this highway. Construction activities were also observed in this area.</p> <p>A detailed revised traffic assessment study report including the Aeromod Dispersion Modeling is enclosed as Annexure – XIV.</p>
17.	<p>PP shall submit the adequate monitoring data as prescribed condition no. 11 of TOR regarding additional monitoring station after grant of ToR (i.e. additional locations of Sahuli &amp; Drugdhamna).</p>	<p>As per the proposed ToR, APML has conducted baseline monitoring for ambient air quality at 10 locations during the Pre-Monsoon Season 2022. The AAQ location was selected based on the wind rose diagram of Pre-Monsoon Season 2021 as shown in next slide as figure -1. Thereby M/s. APML granted ToR letter vide File No. IA-J-11015/46/2022-IA.II(M); on dated 13th Feb, 2023 from MoEFCC, New Delhi. As per ToR Condition No. 4(XI)- Windrose pattern in the area should be reviewed and accordingly location of AAQM shall be planned by the collection of air quality data. 12 Nos. of monitoring location for collecting the baseline data should cover overall the 10 km buffer zone i.e., dispersed in 10 km buffer area. Thus, in line with the ToR condition, baseline monitoring was continued for additional two AAQ locations during premonsoon season from 1st March 2023 – 31st March 2023. One location i.e., Sahuli was selected as the nearest location in the crosswind direction at 1.72 km/ENE. Another location i.e., Drugdhamna was selected in downwind at 2.27 km/E with respect to the site-specific wind rose diagram as shown in next slide as Figure -2</p>
18.	<p>PP shall submit the revised EMP cost after considering all above issues (if any) along with the cost of mitigation measures pertaining to Air and water.</p>	<p>Revised EMP budget for along with the cost of mitigation measures pertaining to Air and water is given as follows *</p> <p>*Green belt development budget including the agro forestry (Orange Cultivation).</p>



		**Total Cost of Water Management - Rs. 4, 15, 00, 000/- Biological Cost of Biological Plan= Rs. 5, 53, 500 for five-year Engineering Cost of Fencing = Rs. 1, 50, 33, 419 Cost of De-silting= Rs. 2, 07, 93, 000 The Total Cost of Rejuvenation of Reservoirs = Rs. 3, 63, 79, 919 (Rs. Three crores sixty three thousand seventy nine thousand nine hundred nineteen only)
19.	PP shall also submit the activity-wise budget addressing the all the issues highlighted during the Public hearing along with recurring cost.	<p>Activity wise budget addressing all issues highlighted during Public Hearing (PH) and social need based assessment are identified.</p> <p>A budgetary provision of Rs. 650 Lakhs towards Capital expenditure an Rs 58 Lakhs will be spent towards Recurring cost are provided towards EMP for Socio economic Development. The detailed EMP for Socio economic development in terms of activities, physical target and timeline based on PH proceedings. The detailed EMP for Social Economic development are provided in below slides.</p>
20.	PP shall submit the plan for Green belt development on 33% area of the total ML area either within/outside the ML area.	This is an underground mining project having lease area is 862 ha. out of which only 18 ha. (non-forest) area will be utilized for infrastructure facilities and mining operation. The company has surface right for only 18 Ha of land. The details of greenbelt are as under: Green Belt/ Plantation Programme The agro forestry plan over 86.0 ha area along with budgetary provision of Rs.11.485/- crores are as under: Plantation related program under Corporate Environment Responsibility (CER) in nearby villages Budget: Rs. 0.39 Crore. The detailed programme is given in next slides.
21.	PP shall submit the elaborated water balance sheet covering the complete utilization of water.	PP shall submit the elaborated water balance sheet covering the complete utilization of water. Reply: The elaborated water balance sheet covers the complete utilization of water of 492 KLD upto initial 3 years.
22.	PP shall submit the dedicated plan for drinking water to near village through pipeline system.	APML has surveyed through an Expert for the Proposed Drinking water facilities at nearby villages the proposals are as follows: - As per the

	survey was carried out in the surrounding 9 villages (Kalambi, Surabardi, Alesur, Khapri, Sahuli, Khadgaon, Waddhamana, Gondkhairi, and Ketapar), out of which 3 villages (Kalambi, Surabardi, Alesur) are having Government Tap water supply from surface water and 6 Villages are those where there is no supply of water by Government agencies. In all this Villages planning for drinking water through pipeline system will be done. The total cost for pipeline system is Rs. 17,78,400 and detailed of the proposed pipeline system is given in lake rejuvenation (Annexure-VII) study page no 24.
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- ii. PP has submitted the application for the Forest clearance for diversion of involved forest land of 87.351 ha vide proposal no. FP/MH/MIN/QRY/408247/2022 dated 06<sup>th</sup> January 2023.
- iii. PP has obtained the Terms of Reference (ToR) vide letter no. IA-J-11015/46/2022-IA. II(M) dated 13.02.2023.
- iv. 862 ha has been allocated by Ministry of Coal (MoC), under Coal Mines (Special Provisions) Act' 2015 on 18.11.2021.
- v. Mining Plan (Including Progressive Mine Closure Plan) had been approved by Ministry of Coal, Government of India on 22.12.2022 for allotted block area of 862 ha.
- vi. Life of mine is 30 years. (Including construction)
- vii. There are no National Parks, Wildlife Sanctuaries and Eco-Sensitive Zones fall within 10 km boundary of the project.
- viii. Public Hearing was conducted on 13.07.2023 for 2 MTPA/3.0 MTPA (Normative/Peak) capacity for MI area of 862 ha.
- ix. PP has submitted the revised EMP cost for Social Economic Development as mentioned below in the tabular form:

S. No.	Particulars	Physical Status	Dec 2023	Dec 2024	Dec 2025	Amount to be spent for head (in Rs. (Lac))	Recurring Cost (in Rs. (Lac))
			-	-	-		
			Dec 2024	Dec 2025	Dec 2026		
			4	5	3		

1	<b>Medical Facilities (OPD and Pathology centre)</b>	<b>Location: villages Gondkhari and Kalambi.</b> <b>Physical work:</b> Establishment of Ambulance Room and Health Centre, Free Medical camps and Medicine Distribute by hiring a MBBS doctor to treat patients in nearby 7 villages, Arrange Water borne diseases camp and Cancer detection camps.	60	60	-do- (year wise)	475	<b>28</b>
2	<b>Education Facilities at nearby villages</b>	<b>Location: Village - at ZP Primary School (old) gond Gondkhari and Surabardi Village.</b>  <b>Physical Work:</b> Donation of computers, books, furniture to village schools, Construction of E-Class Room at Govt. School and Waiting Shed for Z.P. Primary School, Construction of 16 Toilets (06 Nos. for boys & 10 Nos. for Girls).	22	22	-do- (year wise)	160	<b>160</b>
3	<b>Skill Development and Women Empowerment facilities</b>	<b>Location: Village- Gondkhairi, Surabardi, Kalambi ,Ketapar, Sahuli, Drugdhamna and Alesur.</b>  <b>Physical Work:</b> Contribute to Direct Implementation in partnership with ITI and MSME, Involvement of women's in Mason training and breaking stereotypes, 7 Self Help Groups in eight villages and 155 women	15	15	-do- (year wise)	100	<b>08</b>

		engage in the SHGs.					
4	<b>Agricultural Facilities</b>	<b>Location: villages Gondkhari and Kalambi.</b> <b>Physical Work:</b> Donation of seeds, saplings, block plantation in village area, Plantation in school, fertilizers, manure to needy farmers, Financial assistance for Irrigation facilities,	15	15	-do- (year wise)	104	<b>06</b>
5	<b>Infrastructure Facilities</b>	<b>Location: Gondkhairi, Surabardi, Kalambi, Ketapar, Sahuli, Drugdhamna and Alesur.</b> <b>Physical Work:</b> Strengthening/maintenance of village roads, Rain Water Harvesting at Community Area, Provision of Plantation and streetlights in Community Area, Provision Training for recycle SWM and Sale of recyclable waste to scrap merchants.	30	15	-do- (year wise)	165	<b>10</b>

6.	<b>Agroforestry Development</b>	<b>Village wise Agro-Forestry area proposed (in Ha) Tehsil-Kalmeshwar</b> Nanda (Rithi) - 4.50 Ha. Kalambi - 3.50 Ha. Gondkhairi - 10.00 Ha. Karali - 46.00 Ha. Surabardi - 9.00 Ha. Waddhamna - 7.00 Ha.  Total area: 86 Ha. (including 6 Ha. within ML area)	125	125	-do- (year wise)	946	-
		<b>Capital Expenditure =</b>	<b>267</b>	<b>252</b>	<b>----</b>	<b>1950</b>	<b>58</b>

- x. PP has submitted the estimated cost for pipeline system for water supply system as mentioned below:

S. No	Village Name	Unit Rate per meter	Total Average length of pipe required in meters	Cost required (Rs.)
1	Khapri	494	650	32,110
2	Sahuli	494	620	3,06,280
3	Khadgaon	494	752	3,71,488
4	Waddhamana	494	2106	10,40,364
5	Gondkhairi	494	2448	12,09,312
6	Ketapar	494	604	3,16,160
<b>Sub Total</b>				<b>35,64,704</b>
<b>Maintenance and replacement cost</b>				<b>4,35,296</b>
<b>Total</b>				<b>40,00,000</b>

**5.6.4** The EAC after deliberations observed that the instant proposal is a greenfield underground coal mine project wherein surface land involves Agriculture and forest features, in ML area of 87.351 ha. The Committee discussed the possibilities of railway siding for the transportation of coal, however PP assured to implement it with consultation of railway department which is in process of developing integrated railway siding system with other mines. The Committee opined and PP needs to transport the coal to the nearest railway siding either through dedicated railway siding or integrated facility within three years from the date of issuance of EC. The Committee noted that PP has submitted an additional information vide letter dated 23.12.2023 for increasing the CER budget upto Rs. 19.50 Crores from Rs. 6.5 core and EMP cost upto 58 Lakhs.

Further, Committee emphasized on the protection of reservoir falls within/outside the ML area, handling of domestic wastewater/sewage through STP after consulting with state Government. All types of sewage discharges in water bodies to be tapped before entering into the lake/water bodies, and the same shall be part of lake rejuvenation plan. PP was advised to construct additional 6 ponds within the buffer zone of the project area within two years. The Committee also asked PP to increase the budget upto 13.0 cr for social activities, which has to be implemented within the six years from the commencement of mining operations. During discussion of project, the Committee emphasized for protection and improvement of the quality of forest area in collaboration with Forest Department along with strengthening of the plantation within/outside the ML area.

Based on the above discussions held in the EAC meeting, the EAC **recommended** the Environmental Clearance for Gondkhari Underground Coal Mine of production capacity 2.0/3.0 MTPA (Normative/Peak) in the mine lease area of 862.00 Ha of M/s Adani Power Maharashtra Limited (APML) located at Village Gondkhari, Tehsil Kalmeshwar, District Nagpur (Maharashtra) with the following specific conditions under the provisions of EIA Notification, 2006 and its amendments:

**Specific condition: -**

- (i) The grant of EC is subject to submission of the Stage-I Forest Clearance for 87.351 ha of forest land involved in the ML area of 862 ha.
- (ii) PP to obtain the CTO for 2.0/3.0 MTPA (Normative/Peak) capacity after grant of EC.
- (iii) PP shall obtain No Objection Certificate from Central Ground Water Authority for extraction of ground water within six months and submitted to IRO, MoEF&CC.
- (iv) PP should implement the recommendation of lake rejuvenation plan including sewage management, delisting, plantation with appropriate budgetary provisions.
- (v) PP should not affect the Forest area during the construction of infrastructure on the Mine lease.
- (vi) PP shall implement the activities-wise proposed budget for Public Hearing Budget (as mentioned in EIA-EMP report) and Capital cost of Rs. 58 Lakh (as EMP cost mentioned in the above para no. 5.6.3 (ix)) in time bound manner as per 5.6.3 of minutes. The details of annual expenditure incurred shall be part of report to be submitted to IRO, MoEF&CC. PP needs to include the audited figures against the expenditure and activities to be monitored by through dedicated monitoring mechanism. The maintenance of all activities shall be covered through recurring cost of Public Hearing, and continued as a part of CSR budget.
- (vii) PP shall develop 6 nos. of rain water harvesting pond (not less than 100 m, width will be 10 m and the depth will be 3 m) as proposed by PP near the villages of stated area in consultation with Gram Panchayat within 1 year. Also, Indicator aquatic species shall be planted in this water bodies to see the environmental quality. PP shall explore to own water bodies/pond currently present in project area, maintain and regularly monitor the quality for its long term protection.
- (viii) PP shall transport the coal by trucks of fleet size 35-40 tons and no village road shall be used for transportation of coal.
- (ix) PP should implement the village-wise water distribution pipeline system with their adequate budget as mentioned at above para no. 5.6.3 (x) of the Minutes.

- (x) *PP shall maintain atleast 10 mtrs width tree plantation of broad leaves and wind break/green-shield of about 10 mts height along the boundary of coal storage yard.*
- (xi) *PP to plant additional 100,000 plants with three tier plantation along the transportation route, if not completed, and identified areas with consent to the gram panchayat within two year and plant for remaining within 2 years for their proper growth in additional already committed to plant to plantation in 11.0 ha project area.*
- (xii) *PP shall follow the recommendation of subsidence study and monitor the degree of subsidence regularly and shall be submitted to IRO, MoEF&CC.*
- (xiii) *PP to accomplish the recruitment of a full-fledged qualified manpower with Environmental Engineer/Environment Science degree background in Environment Management Cell etc within six months and same shall be reported to IRO, MoEF&CC.*
- (xiv) *PP shall implement Effluent Treatment Plant for wastewater generated from workshop and Sewage Treatment Plan for its colony. No untreated water shall be discharged from mine boundaries to ponds/nallah/river.*
- (xv) *PP to maintain the transportation road properly to minimize the dust emission. PP to also develop pucca/concrete roads by seeking consent from the panchayat with widening of roads especially roads inter linking the villages within the study area of 10 km radius buffer zone.*
- (xvi) *PP to monitor the water quality of the ground water and surface water body located within the core zone and 5 km radius from the periphery of the mine boundary as per procedure laid down by CPCB.*
- (xvii) *PP to install 1 continuous ambient air quality monitoring stations at suitable locations preferably village side with consultation of SPCB. The real time data so generated shall be uploaded on company website and linked it with website of CPCB &SPCB. In addition, data should also be displayed digitally at entry and exit gate of mine lease area for public display.*
- (xviii) *PP must explore innovative technology to recover methane from gases extracted from underground mine while venting.*
- (xix) *PP to install solar lights along the road used for transportation of minerals to avoid the accidents at night and also seek its maintenance. PP is asked to also identify the rural areas for installation of solar light with its maintenance within the study area of 10 km radius buffer zone within one year.*
- (xx) *Proponent shall appoint an Occupational Health Specialist for Regular and Periodical medical examination of the workers engaged in the Project and maintain records accordingly; also, Occupational health check-ups for workers having some ailments like BP, diabetes, habitual smoking, etc. shall be undertaken once in six months and necessary remedial/preventive measures taken accordingly. The Recommendations of National Institute for ensuring good occupational environment for mine workers shall be implemented. The prevention measure for burns, malaria and provision of anti-snake venom including all other paramedical safeguards may be ensured before initiating the mining activities.*

- (xxi) *Persons of nearby villages shall be given training on livelihood and skill development to make them employable with its proper records.*
- (xxii) *The illumination and sound at night at project sites disturb the villages in respect of both human and animal population. Consequent sleeping disorders and stress may affect the health in the villages located close to mining operations. Habitations have a right for darkness and minimal noise levels at night. PPs must ensure that the biological clock of the villages is not disturbed; by orienting the floodlights/ masks away from the villagers and keeping the noise levels well within the prescribed limits for day light/night hours.*
- (xxiii) *PP shall pay to farmers of agricultural land if there is any loss due to pollution found by concerned District Commissioner as per extent rules or norms.*
- (xxiv) *PP should establish in house (at project site) environment laboratory for measurement of environment parameter with respect to air quality and water (surface and ground. A dedicated team to oversee environment management shall be setup which should comprise of Environment Engineers, Laboratory chemist and staff for monitoring of air, water quality parameters on routine basis. Any non- compliance or infringement should be reported to the concerned authority.*

**Agenda No. 5.7**

**Manoharpur and Dipside Manoharpur Coal Mine Project (Expansion of Manoharpur Coal Mine from 8 MTPA to 16 MTPA with increase in project area from 977.875 to 1781.591 ha of M/s Odisha Coal and Power Limited located in Villages Manoharpur, Paramanandpur, Kathafali, Ghumudasan, Dulanga, Durubaga, Katarbaga, Laikera and Sarbahal Tehsil Hemgir District Sundargarh (Orissa) – Reconsideration for Environmental Clearance – reg.**

**[Online proposal No. IA/OR/CMIN/451362/2023; File no. J-11015/139/2008-IA. II(M)]**

**5.7.1** The proposal is for Environment Clearance of Manoharpur and Dipside Manoharpur Coal Mine Project (Expansion of Manoharpur Coal Mine from 8 MTPA to 16 MTPA with increase in project area from 977.875 to 1781.591 ha of M/s Odisha Coal and Power Limited located in Villages Manoharpur, Paramanandpur, Kathafali, Ghumudasan, Dulanga, Durubaga, Katarbaga, Laikera and Sarbahal Tehsil Hemgir District Sundargarh (Orissa).

**5.7.2** Earlier the proposal was considered in the 27<sup>th</sup> EAC meeting held during 3 to 4 March, 2022 and 3<sup>rd</sup> EAC meeting held during 16 to 17 November 2023 wherein the committee returned and deferred the proposal for submitting the information respectively. PP has now submitted the information vide letter dated 19.10.2023 are as follows:

<b>S. No</b>	<b>Observation of EAC</b>	<b>Reply by PP</b>
.		



1.	PP should submit the detail justification and breakup w.r.t. difference in Mine lease area, approved Mine plan area, forest land and its clearance.	<p>As per Mining Plan (Rev III) approved by Ministry of Coal (MoC), GoI for Manoharpur and Dip-side Manoharpur Coal Mine; the area details area as per following:</p> <p><b>A. Project Area Details</b></p> <ol style="list-style-type: none"> <li>1. Mine Lease (ML) Area – 1781.591 Ha,</li> <li>2. Outside ML area for colony, siding &amp; other purposes – 66.788 Ha.</li> <li>3. Total Project Area (1+2) – 1848.379 Ha</li> </ol> <p><b>B. Forest Land details:</b></p> <ol style="list-style-type: none"> <li>1. Within ML area: <ol style="list-style-type: none"> <li>a. Forest area inside the blocks - 474.287Ha,</li> <li>b. Forest area outside the blocks -134.918Ha,</li> </ol> </li> </ol> <p><b>Total forest area within the ML (a+b) - 609.205Ha.</b></p> <ol style="list-style-type: none"> <li>2. Outside ML area - 9.439Ha, T</li> </ol> <p><b>3. Total forest area - 618.644Ha</b></p> <p><b>C. Status of Forest clearances:</b></p> <ol style="list-style-type: none"> <li>1. Total Forest Area - 618.644 Ha</li> <li>2. Forest area within Manoharpur Coal Block (FC Stage II available) - 200.465 Ha</li> <li>3. MGR Area (FC Stage II available)- 57.078 Ha,</li> <li>4. Left out patches area (FC Stage I available) – 15.701 Ha (FC Stage-I compliance submitted and proposal is under process at MoEF&amp;CC for stage-II).</li> <li>5. Thus, total forest area having FC (Stage I or II) – 273.243 Ha</li> <li>6. The balance forest area i.e. 345.401 Ha was filed for diversion. However, on verification of land records by revenue &amp; forest dept., the diversion proposal was submitted for an area of 342.87 ha, which has been appraised in FAC meeting held on 18.12.2023. The MoM of FAC is awaited. <ul style="list-style-type: none"> <li>• Grass carpeting / bushes will be developed along the slope of nallas to holdback solid particles from draining away.</li> <li>• In consultation with DoWR, check dams will be constructed at appropriate places to check the runoff and to ensure inundation of nallas.</li> <li>• No tree cutting will be carried out along the nallas. Further, saplings will also be planted along the course of nalla to develop the green belt.</li> <li>• Stone pitching will also have carried out at required places to strengthen the nalla. Further, during and after the diversion of nallas, the conditions specified in the nalla diversion approval by Dept. of Water Resources (DoWR), Bhubaneswar will be implemented.</li> </ul> </li> </ol>
2.	PP should submit detailed protection measures for	As advised by EAC, the following measures will be adopted at site for the protection of Garia Nalla & Lapani Nalla falling within the Dip-side Manoharpur coal block area:

	<p>Garia Nallah/stream and Lapani nallah/stream passing through the ML area upto 15 year after commencement of the Mine operation.</p>	<p>1. The existing catchment &amp; course of nallas will not be disturbed till mine operations carrying out in Manoharpur block extends into the boundary of Dip-side Manoharpur Coal Block.  2. Fencing along the block boundary and safety zone along the Nallas will be provided to avoid obstruction by others.  3. Periodic de-siltation will be carried out in non-monsoon season to main the flow of nallas.  4. Peripheral drain will be provided all along the working areas to handle the runoff water and for ground water recharge through settling pits.</p>																								
<p>3.</p>	<p>Letter from the state government/SPC B clarifying the distance of IB Valley declared as Severally polluted area.</p>	<p>The proposed project site is located at about 5.2 km away from the severally polluted area (SPA) i.e. IB valley area. A certification letter in this regard has been issued by SPCB, Odisha vide letter dated 20.11.2023.</p>																								
<p>4.</p>	<p>PP should submit the concrete plan for w.r.t. transportation of coal for capacity of 16 MTPA through mechanized system, silo loading and rail line with inpit belt conveyor system. Time bound Completion plan be submitted in this regard.</p>	<p>Presently, the entire coal requirement of EUP (2x660MW) is being met through dedicated MGR network and CHP constructed with Rapid Loading System (RLS) to load the coal @4000tph.</p> <p>The handling capacity of existing MGR line (i.e. single line) is 10MTPA. Further, the land required for construction of 2<sup>nd</sup> track of MGR is in possession and the same will be commissioned by Dec'26. Hence, both the lines put together can handle 16MTPA coal. As direct by EAC, the time bound action plan for construction of 2<sup>nd</sup> line is presented here:</p> <p><b>Implementation schedule for 2<sup>nd</sup> track of MGR</b></p> <table border="1"> <thead> <tr> <th>S. No.</th> <th>Activities</th> <th>Timelines</th> </tr> </thead> <tbody> <tr> <td>1</td> <td><b>Land Acquisition</b></td> <td><b>Completed</b></td> </tr> <tr> <td>2</td> <td>Pre-feasibility study of laying of MGR 2nd line by RITES</td> <td>Completed on 02.10.2023</td> </tr> <tr> <td>3</td> <td>Preparation of DPR</td> <td>April'24</td> </tr> <tr> <td>4</td> <td>Preparation of Technical specifications &amp; Contract document</td> <td>April'24</td> </tr> <tr> <td>5</td> <td>NIT</td> <td>May'24</td> </tr> <tr> <td>6</td> <td>Techno commercial bid opening &amp;evaluation</td> <td>Aug'24</td> </tr> <tr> <td>7</td> <td>e-Reverse auction</td> <td>Sep'24</td> </tr> </tbody> </table>	S. No.	Activities	Timelines	1	<b>Land Acquisition</b>	<b>Completed</b>	2	Pre-feasibility study of laying of MGR 2nd line by RITES	Completed on 02.10.2023	3	Preparation of DPR	April'24	4	Preparation of Technical specifications & Contract document	April'24	5	NIT	May'24	6	Techno commercial bid opening &evaluation	Aug'24	7	e-Reverse auction	Sep'24
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		8	Evaluation and Board approval	Oct'24
		9	Award of Contract	Nov'24
		10	NTP to contractor	Nov'24
		11	Construction of Railway Track parallel to existing track	
		i	Mobilisation period	Jan'25
		ii	Earthwork , Protection works etc.	May'26
		iii	Bridges	June'26
		iv	P. Way Materials & Track Linking works	Sep'26
		v	S&T Work	Oct'26
		12	Trail Run (No load, Full load, substantial completion, Reliability Run)	Nov'26
		13	<b>Final completion</b>	<b>Dec'26</b>
		<b><u>Implementation of In-pit conveyor technology at Manoharpur &amp; Dip-side Manoharpur Coal mine</u></b>		
		<ol style="list-style-type: none"> <li>1. As per the Approved Mining plan (Rev-III) it is envisaged to install the In-pit conveyor technology after 15<sup>th</sup> year of mine operation, when the mine depth increases beyond 210m.</li> <li>2. Then, coal will be transported along working benches by rear dumpers and the same will be loaded onto in-pit conveyor on northern quarry slope via reclaim feeder.</li> <li>3. This system will optimize the transport fleet which in turn reduce the environmental pollution &amp; savings in fuel &amp; manpower.</li> <li>4. Decision regarding the time of installation of in-pit conveying or any other system with advanced technology will be taken at a future date.</li> </ol>		
5.	PP should submit the detailed plantation plan along with the development of plant nursery with minimum capacity of 1.0 Lakh trees and action taken plantation in safety zone (of	<p>As advised by EAC, year wise detailed plantation plan for next 3years has been prepared with the help of horticulture team for densification of safety zone and existing plantation areas. The same is presented in subsequent slides:</p> <p>Further as per directives of EAC, nursery having a minimum capacity of 1.0 Lakh trees will be developed inside the project area which will help to increase the green cover &amp; reclamation of backfilled mine area.</p> <p>Moreover in case, if nursery will not setup; a purchase order will be issued to the State Forest department for dedicated supply of more than 1.0lakh saplings from the nearest nurseries as per the plantation plan.</p>		

	earlier EC). Densification of existing plantation needs to be done															
	PP shall submit the status of mine closure activity wrt to area of already reclaimed (biologically) and proposed area to be completed in 2-3 years	The status of mine closure activity w.r.t. to already reclaimed area and proposed area to be reclaimed is attached as here.														
		<table border="1"> <thead> <tr> <th>Sl No</th> <th>Closure Activity as per MP</th> <th>Current Status</th> <th>Future Compliance</th> <th>Remarks</th> </tr> </thead> <tbody> <tr> <td>1.</td> <td>Technical &amp; Biological Reclamation of Mined out of land and OB Dump</td> <td>Is being complied</td> <td>Will be complied in future as per approved MP&amp;MCP</td> <td> <p>2 nos. of OB dumps are provided to store and reclaim the excavated OB. Technical reclamation of dump is being carried out as per the recommendations &amp; slope stability report conducted by the CIMFR.</p> <p>Till date 12 ha area of OB dump 1 which has attained the finished height has been reclaimed by providing the grass carpeting, seedling and plantation over it.</p> <p>Further in next 2 to 3 years, additional area of about 20Ha will attain the finished height and accordingly, the same will be reclaimed biologically.</p> </td> </tr> </tbody> </table>	Sl No	Closure Activity as per MP	Current Status	Future Compliance	Remarks	1.	Technical & Biological Reclamation of Mined out of land and OB Dump	Is being complied	Will be complied in future as per approved MP&MCP	<p>2 nos. of OB dumps are provided to store and reclaim the excavated OB. Technical reclamation of dump is being carried out as per the recommendations &amp; slope stability report conducted by the CIMFR.</p> <p>Till date 12 ha area of OB dump 1 which has attained the finished height has been reclaimed by providing the grass carpeting, seedling and plantation over it.</p> <p>Further in next 2 to 3 years, additional area of about 20Ha will attain the finished height and accordingly, the same will be reclaimed biologically.</p>				
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		2.	Top Soil Management	Is being complied	Will be complied with the expansion area	<p>During the initial phase of mine operation, the excavated top soil was stored at an earmarked place i.e. top soil dump which has been covered by grass carpeting &amp; seedling over it.</p> <p>Further, 0.276 Mcum top soil excavated during the FY 2022-23 has been spread over the slope of dump 1 to stabilize and cover the dump slope with vegetation.</p>
		3.	Water quality management (DRINKING)	Is being Complied	Will be complied.	Testing of drinking water sample is being carried out by MoEF&CC/NABL/SPC B accredited laboratory.
		4.	Water quality management (surface)	Is being Complied	<p>Will be complied.</p> <p>Adequate nos. of settling ponds will be provided with the advancement of mine to handle the generated runoff.</p>	<p>a. 2 nos. of permanent recharge pond (4000m<sup>3</sup> and 2000m<sup>3</sup>) have been provided to collect the runoff and recharge the ground water table.</p> <p>b. 5 nos. of permanent settling tanks of 8635 m<sup>3</sup> (2x1200 + 2x 1800 + 1 x 2635 m<sup>3</sup>) have been provided to collect the entire runoff of CHP area and reuse of the same for water sprinkling purpose after primary treatment.</p>

					c. 5 nos. of temporary settling cum recharge tanks have also been provided at site to handle the runoff generated from mine area.	
		5.	Water quality management (EFFULENT )	Is being complied	Will be complied.  Capacity of existing ETP will be increased with the increment of number of vehicles deployed for mining activity.	ETP of 50 KLD has been provided at site to treat the waste water generated from workshop area.
		6.	Air quality management	Is being complied	Will be complied. Monitoring locations will be increased with the advancement of mine to monitor the air quality.	Currently, 8 nos. location (4 nos. in core zone and 4 nos. in buffer zone) as approved by SPCB is being monitored every fortnightly to check the air quality of the area and data is being submitted regularly to the statutory authorities.
		7.	Waste management	Is being complied	Will be complied. The capacity of storage area will be increased subsequent to the increase in mine operation	Waste storage area has been provided within the ML area to store and segregate the waste generated from the mining activities.



				the stabilized lower bench of OB dump1.		
		<b>11</b>	Garland drain	Complied	Will be complied.	Garland drains around the mine pit and dumps have been provided to carry the runoff generated from mine area, open area and dump slopes.
		<b>12</b>	Garland Drain around the dump	Complie d	Will be complied.	
7.	PP should submit plan to strengthen the Environmental cell with qualification having environment engineer's/science degree and by developing dedicated environment laboratory at with certain timeline.	<p>An Environment Management Cell (EMC) comprises of technical qualified persons have been appointed at site which is taking care of all environmental compliances &amp; related issues thereof. The cell is headed by Head of Company through Head of Mines. The list showing the name of technical qualified persons along with their designation and degree has been enclosed.</p> <p>Moreover, a dedicated MoEF&amp;CC, NABL and SPCB, Odisha accredited environmental laboratory i.e. M/s Visiontek Consultancy Services Pvt. Ltd., Bhubaneswar has been appointed for the monitoring &amp; analysis of environmental parameters which will be continued in future also.</p>				



8.	PP shall provide details of alternate land for grazing purpose and water body of same area as in land use plan during pre-mining activity.	<p>The details of grazing land and water body provided is as given in Table below:</p> <table border="1"> <thead> <tr> <th>Activity</th> <th>Grazing land, ha</th> </tr> </thead> <tbody> <tr> <td>Pre-mining</td> <td>67.221</td> </tr> <tr> <td>Alternate provided</td> <td>44.43</td> </tr> <tr> <td>To be provided (by end of life of mine)</td> <td>22.791</td> </tr> </tbody> </table> <table border="1"> <thead> <tr> <th>Sl. No</th> <th>Activity</th> <th>Water body, Ha</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Pre-mining</td> <td>29.989</td> </tr> <tr> <td>2</td> <td>Post Mining</td> <td></td> </tr> <tr> <td>a)</td> <td>water reservoir in backfilled area</td> <td>52.50</td> </tr> <tr> <td>b)</td> <td>Below diverted nala</td> <td>5.360*</td> </tr> <tr> <td>c)</td> <td>Garland drain</td> <td>6.770</td> </tr> <tr> <td>d)</td> <td>Water reservoir near pit</td> <td>8.56</td> </tr> <tr> <td>e)</td> <td>Total</td> <td>73.19</td> </tr> </tbody> </table>	Activity	Grazing land, ha	Pre-mining	67.221	Alternate provided	44.43	To be provided (by end of life of mine)	22.791	Sl. No	Activity	Water body, Ha	1	Pre-mining	29.989	2	Post Mining		a)	water reservoir in backfilled area	52.50	b)	Below diverted nala	5.360*	c)	Garland drain	6.770	d)	Water reservoir near pit	8.56	e)	Total	73.19
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9.	PP shall submit Letter of Intent from State Government for proposed mine area, if the mine lease area is not allocated under Coal Bearing Act.	The mine lease area for Dip-side Manoharpur coal block is allocated under CB Act. Gazette notification of the same has been published. Further, LOI for the outside area (510.494 Ha) beyond the ML area has also been issued by the Dept. of Energy, GoO.																																
10.	PP shall submit the environmental mitigation plan for villages coming in the mine lease area till R&R is completed.	<p>Two nos. of villages i.e. Kathafali and Parmanandpur are falling within the mine lease area, which needs to be displaced. However, they are located in hilly terrain topography about at an aerial distance of 1.4 km (SW) &amp; 0.9 km (NW) respectively from the mining operation being carried out presently.</p> <p>Further, due to hilly topography &amp; natural plantation / vegetation over the hill which will act as a wind breaker, the environment of both villages will not be impacted as they are situated towards other side of hill in downward.</p> <p>Moreover, both the villages have already given consent for relocation and process for the same has been commenced and it is envisaged that within 2 years the villages will be shifted completely.</p>																																

		<p><b>As per directives of EAC till the shifting of villages; the proposed environmental mitigation measures will be followed at site :</b></p> <ol style="list-style-type: none"> <li>1. Black topped / concrete roads of 11km length have been provided within the mine area to avoid fugitive dust generation &amp; the same will be ensure.</li> <li>2. Wet drilling is being and will be carried out to control the dust generation.</li> <li>3. Fixed water sprinkling system of 2.0km length has been provided on surface roads.</li> <li>4. DFDS &amp; DSS has been provided in CHP for minimizing fugitive dust emission.</li> <li>5. Grading &amp; Compaction of haul roads is being and will be done regularly.</li> <li>6. Tree plantation along the roads, on OB dump, safety zone, open area etc. is being carried out regularly and will be continued to develop the green belt which will combat the air pollution.</li> <li>7. Implementation of speed limit of the dumper and other transportation vehicles.</li> <li>8. Regular air quality monitoring is being and will be carried out to monitor the dust suppression operations.</li> <li>9. Mobile Fog canon and rain guns have been deployed at mine site to mitigate the air pollution in dust generation areas.</li> <li>10. Miyawaki plantation within the ML area is also being carried out to develop the dense plantation which will help to reduce the dust pollution.</li> </ol>
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**5.7.3** The Committee during deliberations noted the following :

- i. Earlier, PP has obtained the EC vide Ministry's letter No. J-11015/139.2008-IA. II (M) dated 21.02.2014 for 8 MTPA in mine lease area of 977.875 ha in the name of previous allottee i.e. OPGC. After allocation of the coal block to M/s Odisha Coal & Power Limited (OCPL) the same has been transferred in favour of M/s OCPL vide EC letter dated 30.12.2015 and amended vide EC letter dated 06.11.2019.
- ii. ToR was issued for expansion from 8 to 16 MTPA with increase in project area from 977.875 to 1848.379 ha to OCPL vide letter No. J-11015/139.2008-IA.II (M) dated 29.04.2020.
- iii. 618.644 ha of forest land has been reported to be involved in the project. Approval under the Forest (Conservation) Act, 1980 for diversion of 276.655 ha of forest land for non-forestry purposes, Stage I and Stage II Forest Clearance has already been obtained vide letter no F.No.8-63/2011-FC dated 17.10.2012 and F.No.8-63/2011-FC dt. 20.08.2014, respectively.
- iv. For the balance forest area i.e. 345.401 Ha was filed for diversion. On verification of land records by revenue & forest dept., the diversion proposal was submitted for an area of 342.87 ha, which has been appraised in FAC meeting held on 18.12.2023. The MoM of FAC is awaited.

**5.7.4** *The EAC, after deliberating the instant proposal at a length and getting proper justification/reconciliation of Mine lease area, Mine plan area, Forest land & its clearances and*

clarification upon the SPA area and discussions, Committee advised the PP to restrict all Mining activity within the 1781.591 ha i.e. Mine Lease only. The area lying outside the ML area shall be managed separately by the PP for colony or other purposes.

Further, the committee emphasised upon the protection of Garia Nallah/stream and Lapani nallah/stream flowing through the ML area and maintaining their water quality as per the prescribed norms. It was opined that PP shall not use part of forest land for any type of infrastructure development over the proposed diversion of forest land of 342.87 Ha.

Subsequently, the implementation of Merry Go Round (MGR) for the rest 9 MTPA capacity out of the total capacity of 16 MTPA before December, 2026 in addition to that committee emphasized to explore the implementation of inpit belt conveyor system. Accordingly, transportation for coal through road shall be completely stopped after this time period. Also, mitigation measures for the villages coming under the mine lease area shall be taken considerable view.

Based on the above, EAC **recommended** the proposal for grant of expansion of Environmental Clearance to Manoharpur and Dipside Manoharpur Coal Mine Project for enhancement in production capacity 8 MTPA to 16 MTPA with increase in Mine lease area from 977.875 to 1781.591 ha of M/s Odisha Coal and Power Limited located in Villages Manoharpur, Paramanandpur, Kathafali, Ghumudasan, Dulanga, Durubaga, Katarbaga, Laikera and Sarbahal Tehsil Hemgir District Sundargarh (Odisha), under the provisions of EIA Notifications, 2006 and its amendments therein with the following specific conditions for environmental safeguards:

**Specific conditions:**

- i. PP shall submit the Stage-I Forest clearance for diversion of forest land of 342.87 ha lying inside the mine lease area of 1781.591 ha.
- ii. PP shall obtain CTE/CTO from State Pollution Control Board for 16 MTPA of production capacity.
- iii. PP to implement the CHP, RLS and Merry Go Round (MGR) for 16 MTPA capacity before December, 2026 in time bound manner. Further, feasibility of implementing inpit conveyor system till CHP shall be explored for coal avoiding haul road movement and internal road transportation.
- iv. PP shall comply the partial/non-complied EC conditions highlighted by Ministry's Regional Office and submit its report within six months to IRO.
- v. PP shall limit the activities of mining in its mine lease area only i.e. with 1781.591 ha. No OB Dumping and infrastructure activity should be proposed and dumped on forest land.
- vi. PP shall prepare land for grazing purpose and construction of additional water body of same area as in landuse plan during pre-mining activity.
- vii. PP should re-handle the OB dump properly by incorporating the mitigation measures for air pollution with budgetary provision and explore the possibility of M-sand in order to re-utilize the OB dump.
- viii. Garia and Lapani stream/nallah shall not be diverted before 15 years. Subsequent changes shall be taken from MoEF&CC for amendment of this condition. All protection measures to protect the streams shall be implemented.

- ix. *PP to implement EMP in view of the mining area lying very near to the IB valley declared as SPA in concurrence with state action plan.*
- x. *PP should strengthen the toe wall all along the OB dump alongwith the weep holes by cementing it.*
- xi. *PP shall submit the status of progressive mine closure activity w.r.t. to ML area already reclaimed (biologically) and proposed area to be completed within 2-3 years.*
- xii. *PP should share the online data generated from CAAQMS in consultation with state pollution control Board to the CPCB/SPCB.*
- xiii. *PP should strengthen the Environmental cell with qualification having environment engineer's/science degree and by developing dedicated environment laboratory within the Mine lease area within three months accordingly SPCB shall issue the CTO.*
- xiv. *PP shall implement the environmental mitigation plan for villages coming in the mine lease area till R&R is completed.*
- xv. *PP shall obtain No Objection Certificate from Central Ground Water Authority for extraction of ground water.*
- xvi. *PP shall monitor regularly water levels in open dug wells located in village and by establishing Piezometer to ascertain the impact of mining over ground water table and to plan mitigative measures to recharge the area.*
- xvii. *PP shall implement the activities-wise budget for Public Hearing (as mentioned on the para no. 7.3.1 of the EIA-EMP report) and Capital cost, recurring cost (as mentioned on the para no. 6.4.1 of the EIA-EMP report). The details of annual expenditure incurred shall be part of report to be submitted to IRO, MoEF&CC. PP needs to include the audited figures against the expenditure and activities to be monitored by through dedicated monitoring mechanism. The maintenance of all activities shall be covered through recurring cost of Public Hearing, and continued as a part of CSR budget.*
- xviii. *PP shall develop additional rain water harvesting pond (100 m, width will be 10 m and the depth will be 3 m) as proposed by PP near the villages of stated area in consultation with Gram Panchayat within 1 year. Also, Indicator aquatic species shall be planted in this water bodies to see the environmental quality. PP shall own water bodies/pond currently present in project area, maintain and regularly monitor the quality for its long term protection.*
- xix. *PP shall implement Water distribution system in near villages. A proper water pipeline distribution network shall be devised to meet the demands of farmers related to irrigation and recharging of ponds, wherever required. The water treatment plant to meet the requirement with the start of production.*
- xx. *PP shall deposit the approved amount as proposed for wildlife conservation plan to the State Govt. Forest & Environment Dept. and further consult with State Biodiversity Authority for its CSR activity.*
- xxi. *PP shall conduct third party audit of compliance of EC condition at an interval six months and its report shall be submitted to IRO, MoEF&CC.*
- xxii. *Sufficient nos. of fog cannons of atleast 40 mtrs throw shall be installed at coal storage yard, in nearby villages and along the transportation route. Main haul road in the mine shall be provided with permanent water sprinklers, and other roads shall be regularly wetted with water tankers*

- fitted with sprinklers. Also PP shall install Mist Cannon Dust Suppression Systems (distance 80-100 mtrs.) at Coal Stock Yard to suppress the dust particles.*
- xxiii. *PP shall transport the coal by trucks of fleet size 35-40 tons (Payload) and no village road or sensitive location shall be used for transportation of coal.*
- xxiv. *PP shall maintain at least 10 mtrs width tree plantation of broad leaves and wind break/green-shield of about 10 mts height along the boundary of coal storage yard.*
- xxv. *PP to plant additional 100,000 plants with three tier plantation along the transportation route, if not completed, and identified areas with consent to the gram panchayat within two year and plant for remaining within 2 years for their proper growth in addition already committed to plant to plantation in 10 ha of project area.*
- xxvi. *PP shall implement air pollution mitigation measures near the villages, located at coal storage yard within mine lease area.*
- xxvii. *PP shall follow the recommendation of subsidence study and monitor the degree of subsidence regularly and shall be submitted to IRO.*
- xxviii. *PP shall implement Effluent Treatment Plant for wastewater generated from workshop and Sewage Treatment Plan for its colony. No untreated water shall be discharged from mine boundaries to ponds/nallah/river.*
- xxix. *PP shall deploy atleast 20% of overall fleet of dumpers/trucks as electrical or CNG/LNG based dumpers/trucks for transportation of coal/OB etc.*
- xxx. *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.*
- xxxi. *PP to provide bio toilets to the villages located within the study areas within 1 year from the grant of this EC.*
- xxxii. *Persons of nearby villages shall be given training on livelihood and skill development to make them employable with its proper records.*
- xxxiii. *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.*
- xxxiv. *PP shall reduce the carbon footprint after sequestration of CO<sub>2</sub>. IRO will review the progress of CO<sub>2</sub> sequestration. The process of sequestration of CO<sub>2</sub> will include the planting trees, by “Developing carbon capture and storage (CCS) technologies” and implementation of renewable energy. Further, PP shall carry out enough plantation to ensure carbon sequestration lost due to deforestation and other fossil fuel based activities.*
- xxxv. *PP to maintain the transportation road properly to minimize the dust emission. PP to also develop pucca/concrete roads by seeking consent from the panchayat with widening of roads especially roads inter linking the villages within the study area of 10 km radius buffer zone.*
- xxxvi. *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.*
- xxxvii. *PP to install 1 continuous ambient air quality monitoring stations at suitable locations preferably village side with consultation of SPCB. The real time data so generated shall be*

uploaded on company website and linked it with website of CPCB &SPCB. In addition, data should also be displayed digitally at entry and exit gate of mine lease area for public display.

- xxxviii. 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. 5.8**

**Expansion of Gare Palma IV/I Coal mine project for increase in production capacity from 6.0 MTPA to 7.2 MTPA (with existing Coal Washery within the ML area having capacity of 3.6 MTPA) by M/s Jindal Power Limited located at Villages Nagaramuda, Tapranga, Dongamahua, Dhaurabhanta, Janjgir and Amgaon, Tehsil Tamnar, District Raigarh (Chhattisgarh) - For Environmental Clearance under OM dated 11.04.2022 (Stage-I - 20% expansion) - reg.**

**[Online Proposal No. IA/CG/CMIN/453727/2023; File No. J-11015/81/2008-IA.II (M)]**

**5.8.1** The proposal is for Environmental Clearance for increase in production capacity from 6.0 MTPA to 7.2 MTPA for Gare Palma IV/I Coal mine project (with existing Coal Washery within the ML area having capacity of 3.6 MTPA) by M/s Jindal Power Limited located at Villages Nagaramuda, Tapranga, Dongamahua, Dhaurabhanta, Janjgir and Amgaon, Tehsil Tamnar, District Raigarh (Chhattisgarh) under provisions of 7(ii) of EIA Notification, 2006 under OM dated 11.04.2022.

PP intends to seek expansion of 20% under OM dated 11.04.2022

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

#### **I. LOCATION OF PROJECT**

- (i) The project area is covered under Survey of India Toposheet no. 64 N/12 (open series map F44L12; R.F.1:50,000) and is bounded by the geographical coordinates ranging from Latitudes (N): 22° 05' 38.115" to 22°08' 3.698", and Longitude (E): 83°31' 31.225" to 83° 34' 1.57".
- (ii) Coal linkage of the project is proposed for JPL power plant at Tamnar, as well as sale to other user as permitted.
- (iii) Joint venture: Not Applicable
- (iv) The Ib Valley PIA is the nearest critically polluted area situated at the distance of 34.8 km, south east. from the project boundary.
- (v) Employment generation- Present manpower for 6.0 MTPA production is 1005 and additional manpower requirement for the expansion of mine to 8.4 MTPA shall be 112 including outsourced. Thus, the total has been estimated as 1117 persons after expansion.
- (vi) The project is reported to be beneficial in terms of:

**Social:** Direct and Indirect employment generation and development of social infrastructure facilities under CSR activities in nearby villages.

**Financial:** Income generation to employee and associated persons, revenue generation to state etc.

**Environmental:** Remediation of potential environmental impacts, afforestation of backfilled and dump areas, 100% reuse of mine seepage water, use of cross country pipe conveyor for evacuation of Coal.

- (vii) Earlier, Ministry of Environment & Forests, Government of India vide letter no. J-11015/81/2008.IA-II(M) dated 21.05.2012 granted EC for expansion of ML area from 705.556 ha to 978.654 ha with the coal mining capacity at 6 MTPA and expansion of coal washery II from 2.4 MTPA to 3.2 MTPA. The prior EC granted by MoEF&CC was transferred in the name of Jindal Power Ltd. from Jindal Steel & Power Ltd. vide letter no. J-11015/81/2008.IA-II(M) dated 28.10.2021.
- (viii) Total mining lease area as per approved mining plan is 978.654 ha. Mining Plan for 6 MTPA production was prepared and approved by Ministry of Coal vide letter no. 13016/5/2004-CA-1 dated 16.05.2008. Mine Closure Plan was approved by MOC vide letter no. 13016/05/2004-CA-1(Part) dated 19.08.2014. Mining Plan and Mine Closure Plan (3<sup>rd</sup> Modification) (8.4 MTPA, project area/ applied ML 978.654 ha) has been approved by the Board of Jindal Power Ltd. vide resolution dated 20.04.2023 under minor changes, clause 1.3.(B) of guidelines for preparation, formulation, submission, processing, scrutiny, approval and revision of Mining Plan for the coal and lignite blocks, issued by Ministry of Coal vide O.M No.34011/28/2019-CPAM dated 29.05.2020

## II. LAND USE DETAILS OF MINE

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

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

Land use pattern	Within ML Area (ha)	Outside ML area (ha)	Total
Agricultural Land	716.655	-	716.655
Forest land	91.179	-	91.179
Waste Land	-	-	-
Grazing Land	99.964	-	99.964
Surface water Bodies	14.247	-	14.247
Settlements	-	-	-
Roads & Others	41.687	-	41.687
Others (Govt. Non forest land)	14.922	-	14.922
<b>Total</b>	<b>978.654</b>		<b>978.654</b>

PP has also submitted the land use plan during the Mining (5<sup>th</sup> year) after EAC meeting:

Sl. No.	Description of area	Land use (Ha.)				
		Plantation	Water body	Public use	Un-disturbed	Total
1.	Excavation/Quarry Area (718.760 ha)					
(a)	Backfilled Areas	534.730				534.73
(b)	Excavated void		184.03			184.03
2.	External Dump	70.950				70.95
3.	Road and infrastructure	10.000		26.25		36.25
4.	Others					-
(a)	Nala Diversion		5.0			5.0
(b)	Green Belt	30.17				30.17
(c)	Undisturbed				117.524	117.524
<b>TOTAL</b>		<b>645.85*</b>	<b>189.03</b>	<b>26.25</b>	<b>117.524</b>	<b>978.654</b>

*\*This includes plantation on 114.04 ha of land covered under plantation till 2022-23.*

*In post mine closure stage (8<sup>th</sup> year), out of the total 645.85 ha of plantation land, 554.671 ha (534.730 over backfilled area + 9.941 ha over external dump + 10.000 ha over road and infrastructure) will be returned back to the land owners and 91.179 ha of forest land will be handed over back to the Forest Department.*

**Post Mining Land Use details (in Ha.)**

S. No.	Description of area	Land use (Ha.)					
		Plantation (return to forest land)	Agriculture	Water body	Public use	Undisturbed	Total
1.	External Dump	61.009	9.941				70.95
2.	Topsoil Dump						
3.	Excavation/Quarry Area						
(a)	Backfilled Areas		534.73				534.73
(b)	Excavated void			184.03			184.03
4.	Road						
5.	Built up area (infrastructure)		10.0		26.25		36.25



S. No.	Description of area	Land use (Ha.)					
		Plantation (return to forest land)	Agriculture	Water body	Public use	Undisturbed	Total
6.	Green Belt	30.17					30.17
7.	Undisturbed area					117.524	117.524
8.	Safety Zone/ Rationalisation Zone						
9.	Diversion/ Below River/ Nala/ Canal			5.0			5.0
10.	Water body						-
11.	Staff colony						
<b>TOTAL</b>		<b>91.179</b>	<b>91.18</b>	<b>189.03</b>	<b>26.25</b>	<b>117.524</b>	<b>978.654</b>

- (x) Total geological reserve reported in the mine lease area is 140.89 MT with 126.49 MT mineable reserve. Out of total mineable reserve of 126.49 MT, 120.17 MT are available for extraction. Percent of extraction is 90.5%.
- (xi) 18 seams with thickness ranging from 0.44-10.74 m are present. Grade of coal varies from Grade varying from D to G and the average grade is F & G (G-12 to G-17 based on GCV). Stripping ratio was 3.11 (upto 31.03.2023) & shall be 5.73 (in future) (Cum:Tonne), while gradient is 2 to 6 degree.
- (xii) Method of mining operations envisaged by opencast mechanized method.
- (xiii) Life of mine: Reduction of 11 years from 16 years to 5 years.
- (xiv) The project has 2 external OB dumps in an area of 70.95 ha with with heights of 75 m and 65 m and 21.91 Mm<sup>3</sup>. Internal OB in an area of 534.73 Ha with 340.749 Mm<sup>3</sup> of OB is envisaged in the project.
- (xv) Total quarry area is 718.760 ha out of which backfilling will be done in 534.73 ha while final mine void will be created in an area of 184.03 Ha with a depth of 155 m. Backfilled quarry area of 534.73 ha shall be reclaimed with agriculture. Final mine void 184.03 ha will be converted into a water body.

### III. TRANSPORTATION OF COAL

- (xvi) Transportation of coal has been proposed by dumpers in pit and from surface to JPL power plant through a 7 km long Cross Country Pipe Conveyor (CCPC) and by road during break down only.
- (xvii) Reclamation Plan in an area of 645.85 ha, comprising of 534.73 ha backfilled area, 70.95 ha dump, 10 ha road and infrastructure area. In addition to this, an area of 30.17 ha has also been proposed for green belt development.
- (xviii) 91.179 ha of forest land was involved while seeking EC of 2012 for extension in ML area from 705.556 ha. to 978.654 ha. Approval under the Forest (Conservation) Act, 1980 for diversion of this 91.179 ha of forest land for non-forestry purposes has been obtained vide MoEF&CC letter F. No. 8-60/2009-FC dated 11<sup>th</sup> July 2023.
- (xix) No National Parks, Wildlife Sanctuaries and Eco-Sensitive Zones fall within 10 km boundary of the project.

- (xx) Wildlife conservation plan for schedule- I species has been submitted to competent authority and approved vide letter no. 142 dated 23.08.2022.
- (xxi) Ground water table has been reported to be varying between 5.2 to 54.6 meter below ground level (m bgl) in pre-monsoon and 2.0 to 52.3 meter below ground level in post- monsoon.
- (xxii) Total water requirement for the project is 5,742 KLD.
- (xxiii) NOC from CGWA has been obtained vide NOC no. CGWA/NOC/MIN/ORIG/2022 /15683 dated 07.06.2022 valid up to 06.06.2024.

#### IV. DETAILS OF PUBLIC HEARING & RELATED ISSUES

- (xxiv) Public hearing for the project of capacity 6 MTPA for an area of 978.654 hectare was conducted on 25.09.2009 at 11.30 am at Government Pre-Secondary School. Ground, Janjgir, Tehsil Gharghoda, District Raigarh (Chhattisgarh) under the chairmanship of Additional District Magistrate, Raigarh. Major issues raised in the public hearing and Appropriate action to address the issues raised in the Public Hearing have already been taken/proposed.
- (xxv) Commitment made by the Project Proponent to address the Public Hearing concerns have been mentioned above.
- (xxvi) Hearing have already been taken place as mentioned above.
- (xxvii) Consent to Operate for the existing capacity was obtained from the Chhattisgarh Environment Conservation Board letter no. 6185/TS/CECB/ 2021 Nava Raipur Atal Nagar, Raipur, Dated 22/11/2023 valid till 31/10/2024.
- (xxviii) Bendra Nala is flowing within boundary of lease. The nala has been diverted (straightening of meander).
- (xxix) Regular monitoring of ambient air quality is being carried out on fortnightly basis. The documented report is submitted to RO, MoEF&CC along with half yearly EC compliance report. In general, the results of ambient air quality monitoring data were found within prescribed limits except few aberrations which can be attributed to the specific local conditions during the day of sampling. CAAQMS is also established within the area to monitor the ambient air quality and the same is linked with the CECB.
- (xxx) No court cases with respect to the environment and forest, no violation cases are pending against the project of the present PP.
- (xxxi) The project involves violation of the EIA Notification, 2006 and amendment issued there under for the period 2002-03 to 2004-05 by prior allottee M/s JSPL. The coal production from the mine was started from the year 1998-99 onwards. No excess production of coal from the sanctioned capacity has been realized since the re-commencement of mining operations by JPL. The coal production realised from the project, from 1993-94 onwards is as under:

<b>Year</b>	<b>EC sanctioned capacity (MTPA)</b>	<b>Actual production (MTPA)</b>	<b>Excess Production beyond the EC sanctioned capacity</b>
<i>Operation by prior allottee JSPL</i>			
2005-06	6	5.310038	Nil

2006-07	6	5.968613	Nil
2007-08	6	5.994313	Nil
2008-09	6	5.99815	Nil
2009-10	6	5.998849	Nil
2010-11	6	5.998593	Nil
2011-12	6	5.998109	Nil
2012-13	6	5.999428	Nil
2013-14	6	5.99931	Nil
2014-15	6	5.989099	Nil
<b>Operation by custodian SECL</b>	6		Nil
2015-16	6	Nil	Nil
2016-17	6	0.844	Nil
2017-18	6	1.327	Nil
2018-19	6	1.681	Nil
2019-20	6	0.762	Nil
2020-21	6	Nil	Nil
2021-22	6	Nil	Nil
(Upto 6th July)	-		Nil
<b>Operation by present allottee by JPL</b>	-		Nil
7th July 2021- to 31st March, 2022	6	0.363	Nil
2022-23	6	5.629	Nil

## V. BENEFITS OF THE PROJECT

(xxxii) The project involves 375 project affected families. R&R of the PAPs will be completed as per the R&R plan.

(xxxiii) Total cost of the project is Rs. 483.33 Crores. Cost of production is Rs. 1150 per tonne (approximately). Proposed CSR activities for FY-2023-24 is Rs. 4.01 crores. R&R cost is Rs. 7.02 Crores. Capital & recurring cost on EMP were envisaged as Rs. 2798.38 lakhs and Rs.402.08 lakhs respectively.

(xxxiv) Consent to Operate for the existing capacity was obtained from the Chhattisgarh Environment Conservation Board vide Letter No. 6558/TS/CECB/ 2021 Nava Raipur Atal Nagar, Raipur, Dated 22/11/2023 valid till 31/10/2024.

## VI. CONTROL OF POLLUTION: (A) AIR & (B) WATER

(xxxv) Environmental Baseline data was generated in the post - monsoon season i.e from 01.10.2022 to 31.12.2022 at 10 air quality monitoring locations. Twenty four hour average PM10 level was found to range from 41.0 to 82.2 µg/m<sup>3</sup>, PM<sub>2.5</sub> was found to vary from 18.3 to 38.1 µg/m<sup>3</sup>, SO<sub>2</sub> from BDL to 25.2 µg/m<sup>3</sup> and NO<sub>2</sub> from 6.3 to 30.8 µg/m<sup>3</sup>. The incremental increase is projected to be 1.07 µg/m<sup>3</sup> for PM<sub>10</sub>, 0.62 µg/m<sup>3</sup> for PM<sub>2.5</sub>, 0.07 µg/m<sup>3</sup>

for SO<sub>2</sub>, and 0.66 µg/m<sup>3</sup> for NO<sub>x</sub>. The concentrations of SO<sub>2</sub> and NO<sub>2</sub> are within NAAQS permissible limit for residential, rural and other areas at all stations.

(xxxvi) Surface water and 9 ground water sampling stations were monitored within the study area. Nine ground water samples were collected from Jangir, Tapranga, Nagaramunda, Jamkhani, Tamnar, Taparia, Porhajhalanga, Milupara and Hardijharia villages and eight surface water samples were collected from mine sump water (core zone), Bendra nala up stream near Janjgir village (upstream), Bendra nala downstream near Beljor village (downstream), Pond near Tapranga village, Kelo river upstream near Rampur village, Kelo river downstream near Kudankhar village, Gharghurna nala near Libra village, Koledega nala near Khuruslenga village. All the parameters of ground water were well within the permissible limits as per IS 10500: 2012. The surface water quality in all samples was found from class B to E. The result indicates that the maximum and minimum values of DO ranges between 8.1 to 8.2 mg/l, hardness ranged between 36 - 568 mg/l in surface water.

## **VII. PP shall provide the historical background of the project since its inception with regard to grant of EC and production capacity.**

Gare Palma IV/1 Coal Mine was first allotted by the Ministry of Coal, Government of India, vide letter no. 47011/7(16)/93-CPA dated 20th June, 1996 to Jindal Steel & Power Ltd (JSPL).

The Mining Plan for 6 MTPA production was prepared and approved by Ministry of Coal vide letter no. 13016/5/2004-CA-1 dated 16.05.2008 and Later, Ministry of Environment & Forests, Government of India vide letter no. J-11015/81/2008.IA-II(M) dated 21.05.2012 granted EC for expansion of ML area from 705.556 ha. to 978.654 ha. with the coal mining capacity at 6 MTPA and expansion of coal washery II from 2.4 MTPA to 3.2 MTPA (Annexure III). Mine Closure Plan was approved by MOC vide letter no. 13016/05/2004-CA-1(Part) dated 19.08.2014.

Thereafter, the block was de-allocated as per order of Hon'ble Supreme Court of India in 2014. Coal India Limited was appointed as the custodian of the mine by the Ministry of Coal in March, 2015.

Accordingly, mine was handed over to South Eastern Coalfields Ltd. (subsidiary of Coal India Ltd.) on 01.04.2015. Subsequently, auction for the said mine was held by the Ministry of Coal and Jindal Power Ltd. was the successful bidder for Gare Palma IV/1 Coal Mine and the mine was vested to Jindal Power Ltd by MOC vide its Order No. NA-104/16/2020-NA dt 08.03.2021 Corrigendum-1, 2 and 3 dt. 18-06-2021, 03-12-2021 and 25-11-2022 respectively. The transfer of EC was carried out vide MoEF&CC's letter vide letter no. J-11015/81/2008.IA-II(M) dated 28.10.2021.

### **5.8.3 The Committee after deliberations noted the followings: -**

- i. PP had obtained EC vide letter no. J-11015/81/2008.IA-II(M) dated 21.05.2012 for expansion of ML area from 705.556 ha to 978.654 ha with the coal mining capacity at 6 MTPA and

- expansion of coal washery-II from 2.4 MTPA to 3.6 MTPA.
- ii. Public hearing for the project of capacity 6 MTPA for an area of 978.654 ha was conducted on 25.09.2009 under the chairmanship of Additional District Magistrate, Raigarh.
  - iii. EC was transferred to JPL vide letter no. J-11015/81/2008.IA-II(M) dated 28.10.2021 from SECL after taking charge of mine from SECL on 7th July, 2021.
  - iv. Mining Plan and Mine Closure Plan (3<sup>rd</sup> Modification) has been approved by the Board of Jindal Power Ltd. vide resolution dated 20.04.2023 under minor changes, clause 1.3. (B) of the guidelines for preparation, Formulation, Submission, Processing, Scrutiny, approval and revision of Mining Plan for the coal and lignite blocks, issued by Ministry of Coal vide O.M No.34011/28/2019-CPAM dated 29.05.2020 for expansion from 6.0 to 8.40 MTPA (40% expansion).
  - v. 91.179 ha of forest land was involved while seeking EC of 2012 for extension in ML area from 705.556 ha. to 978.654 ha. Approval under the Forest (Conservation) Act, 1980 for diversion of this 91.179 ha of forest land for non-forestry purposes has been obtained vide MoEF&CC letter F. No. 8-60/2009-FC dated 11<sup>th</sup> July 2023.
  - vi. Permission for the withdrawal of Ground water has been obtained vide NOC no. CGWA/NOC/MIN/ORIG/2022/15683 dated 07/06/2022 which is valid upto 06/06/2024 for 413 KLD fresh water and 5329 KLD dewatering from mine
  - vii. PP has submitted the approved Wildlife Conservation Plan for schedule- I species from Office of the Principal Forest Conservator (Wildlife & Biodiversity Conservation) & Chief Wildlife Custodian, Chhattisgarh vide letter no. 142 dt. 23.08.2022.
  - viii. Life of mine: Reduction of 11 years from 16 years to 5 years.
  - ix. Transportation of coal has been proposed by dumpers in pit and from surface to JPL power plant through a 7 km long Cross Country Pipe Conveyor (CCPC) and by road during break down only.
  - x. No National Parks, Wildlife Sanctuaries and Eco-Sensitive Zones fall within 10 km boundary of the project.
  - xi. Consent to Operate for the existing capacity was obtained from the Chhattisgarh Environment Conservation Board letter no. 6185/TS/CECB/ 2021 Nava Raipur Atal Nagar, Raipur, Dated 22/11/2023 valid till 31/10/2024.
  - xii. PP has submitted the Certified Compliance Report vide letter No. 6730/Mu./Tak./CGECB//2023 dated 28.11.2023.

**5.8.4** *The EAC after detailed deliberations observed that the instant proposal has been applied under Ministry's OM dated 11<sup>th</sup> April, 2022 for expansion in capacity upto 20% with exemption in public hearing under clause 7 (ii) of EIA, Notification, 2006. Earlier Ministry had issued EC on 21.05.2012 with public hearing on 25.09.2009. Further as per the direction of Hon'ble Supreme court after deallocation of mine, M/s SECL assigned as a custodian of mine by MoC. M/s SECL operated the said mine, which later transferred from SECL to JPL vide letter no. J-11015/81/2008.IA-II(M) dated 28.10.2021. There is a Coal Washery of 3.6 MTPA capacity within the ML area of Gare Palma IV/I coal mine project.*

*The Committee during the discussions found certain discrepancies w.r.t. forest area and plantation areas during progressive mining stage. The same has been reconciled and submitted at later stage. However, the EAC noted that efforts are needed to fully comply with the R&R plan. The water balance details submitted by the PP are also not clear. The plantations done by the PP need to be adequately densified and audited by a third party to assess their efficacy. It was noted that PP has installed tubbed conveyor system from dispatch point of ML area. The Committee emphasised to explore and implement the inpit belt conveyor system for transportation of coal upto the power plant. PP however agreed to explore the mechanised system to avoid marginal road transportation system and submit details to IRO. Meanwhile, it was advised to PP to incorporate electric vehicles for transit movement of coal. The Committee discussed certified compliance report of the EC & EC transfer letter vide dated 21.05.2012 & 28.10.2021 respectively and found satisfactory.*

*During the discussions, the committee emphasised to regular monitoring of surface/ground water within/outside the ML area and develop in situ lab within the ML area. Further, Committee stressed to develop thick plantation inside/outside the ML area as well as on the safety zone of 7.5m all along the ML boundary. Since mine area fall under Raigarh (Chhatisgarh) wherein NGT has issued certain directions for entirety including power plants, the committee opined that PP to fulfil the conditional requirements of the area.*

*Based on the above discussions held in the EAC meeting, the EAC recommended the Environmental Clearance under Ministry's OM dated 11.04.2022 for Gare Palma IV/I Coal mine project for increase in production capacity from 6.0 MTPA to 7.2 MTPA (already existing Coal Washery within the ML area having capacity of 3.6 MTPA) by M/s Jindal Power Limited located at Villages Nagaramuda, Tapranga, Dongamahua, Dhaurabhanta, Janjgir and Amgaon, Tehsil Tamnar, District Raigarh (Chhattisgarh) with the following specific conditions under the provisions of EIA Notification, 2006 and its amendments:*

**Specific condition: -**

- i. As per NGT order dated 15.02.2022 in Original Application No. 104/2018 in the matter of Shiygal Bhagat & Ors vs UOI, PP to comply with all the recommendations of Carrying Capacity Study being conducted by reputed institute by CPCB & SPCB.*
- ii. As per NGT order dated 15.02.2022 in Original Application No. 104/2018 in the matter of Shiygal Bhagat & Ors vs UIO, proper and free health care facilities with multispecialty treatment system shall be provided in coal mine buffer area.*
- iii. As per NGT order dated 15.02.2022 in Original Application No. 104/2018 in the matter of Shiygal Bhagat & Ors vs UIO, PP shall have to comply that when coal is sold to TPP, there is the agreement to sell that at least 25% Fly Ash of the coal sold, should be accepted by the coal company (seller) from TPP(Purchaser) failing which coal company shall be liable for civil action and other legal measures.*
- iv. PP to obtain the CTO for Opencast coalmine capacity of 7.2 MTPA after grant of EC and for existing Coal washery of 3.6 MTPA capacity.*

- v. *PP shall explore the possibility of implementation of In-pit belt conveyor system along with Silo loading system for 7.2 MTPA.*
- vi. *Till fully mechanised system put in place, PP shall deploy at least 30% of overall fleet size of dumpers/trucks as electrical or CNG/LNG based dumpers/trucks for transportation of coal/OB etc and deploy e-vehicles for workers/staff in/out of the mine.*
- vii. *PP shall obtain CTO for ETP from respective SPCB and status to be reported to IRO, MoEF&CC.*
- viii. *PP to install 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.*
- ix. *PP to address the issues of local public with sufficient budgetary provisions as a part of public hearing. The maintenance of all public hearing activities shall be covered through recurring cost, which will be part of CSR budget.*
- x. *PP to address activities-wise budget as EMP cost in time bound. The details of annual expenditure shall be part of report submitted to IRO, MoEF&CC. PP needs to include the audited figures against the expenditure and activities to be monitored through dedicated online monitoring mechanism. The maintenance of all activities shall be covered through recurring cost, which will be part of CSR budget.*
- xi. *PP shall establish Environmental laboratory at project site by March 2024 and create Environmental Management Cell to monitor the issues related environmental degradation.*
- xii. *PP shall treat the mine water with analytical reports before use by the local villagers.*
- xiii. *PP shall deploy the truck size of upto 40 tonnes (payload) for transportation of coal within the mine area through dedicated haul road till implementation of In-pit belt conveyor system. SPCB shall monitor the coal transportation by road or rail and CTO to be issued accordingly.*
- xiv. *PP shall conduct feasibility studies for assessment of voids for backfilling of ash and mixing of ash with overburden, taking up backfilling ash and OB mixing activities during operations as well as post closure of mines in line with the Fly Ash Utilization Notification, 2021.*
- xv. *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.*
- xvi. *PP shall conduct third party audit of compliance of EC condition at an interval six months and its report shall be submitted to IRO, MoEF&CC.*
- xvii. *PP shall ensure the compliance of expenditure to be incurred for wildlife conservation plan submitted to the State Govt. and the details expenditure shall be submitted with six monthly EC compliance report to Ministry's IRO. Also, PP shall engage State Biodiversity Authority and local biodiversity committee for implementation of CSR activity for developing the local market.*
- xviii. *PP shall complete the tree plantation in and around village Dongamahua in calendar year 2024 and submit a report to IRO, MoEF&CC.*
- xix. *The plantations done by the PP need to be adequately densified and audited by a third party to assess their efficacy. Densification of existing plantations shall also be done during the monsoon of 2024.*
- xx. *PP shall create a "Public Grievance Redressal and Monitoring System" for resolving any*

*issues related to the pollution of mines and complaint has to be suitably resolved as soon as possible but certainly not beyond 30 days. In this regard, adequate awareness to be spread among the public to address their grievance to company with simple and easy manner and for which company needs to devise the mechanism. The same shall be reported to IRO within 3 months. A logbook to be maintained by PP on “Public Grievance Redressal and Monitoring System.”*

- xxi. *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.*
- xxii. *PP shall have to comply the condition w.r.t washery as prescribed in the Ministry’s letter dated 21.05.2012 and 28.10.2021 and submit to IRO, MoEF&CC*
- xxiii. *PP shall fully complete the approved R&R plan by October 2024*
- xxiv. *A detailed water balance study shall be carried out through a third party and details submitted to IRO by June 2024.*
- xxv. *PP shall explore the installation of full mechanised system to avoid marginal road transportation system and submit details to IRO*

## **Agenda No. 5.9**

**Datima Underground Coal Mining for production capacity of 0.36 MTPA/0.54 MTPA (Normative/Peak) in the ML area of 807.91 ha of M/s Shree Cement Ltd. Located at village Rai in Taluka Bhatgaon, villages Datima & Kharsura in Taluka Surajpur, villages Kumda & Laxmanpur in Taluka Latori, District Surajpur (Chhattisgarh) - For Terms of Reference- reg.**

**[Online Proposal No. IA/CG/CMIN/454037/2023; File No. IA-J-11015/44/2023-IA-II(M)]**

**5.9.1** The proposal is for Terms of Reference for Datima Underground Coal Mining for production capacity of 0.36 MTPA/0.54 MTPA (Normative/Peak) in the ML area of 807.91 ha of M/s Shree Cement Ltd. Located at village Rai in Taluka Bhatgaon, villages Datima & Kharsura in Taluka Surajpur, villages Kumda & Laxmanpur in Taluka Latori, District Surajpur (Chhattisgarh).

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

### **I. LOCATION OF THE PROJECT**



- (i) The project area is covered under Survey of India Toposheet no. 64I/15 and 64I/16 (open series map F44E15 & F44E16; R.F. 1:50,000) and is bounded by the geographical coordinates ranging from Latitudes (N): 23° 13' 48.083" N to 23° 15' 59.435" N and Longitude (E): 82° 57' 41.843" E to 82° 59' 14.152" E.
- (ii) Coal linkage of the project is proposed project: Nil
- (iii) Joint venture: Not Applicable
- (iv) Project does not fall in the Critically Polluted Area (CPA), where the MoEF&CC's vide its OM dated 13<sup>th</sup> January, 2010 has imposed moratorium on grant of environment clearance.: There is no any critically polluted area situated in 10 km radius of project. The nearest critically polluted area is Singrauli, Madhya Pradesh at a distance of 95 km, NNW.
- (v) Employment generation- 358 persons.
- (vi) The project is reported to be beneficial in terms of: Social: Direct and Indirect employment generation and CSR activities in nearby villages. Financial: Income generation to employee and associated persons, revenue generation to state etc.
- (vii) Total mining lease area as per block allotment is ha. 807. The Mining Plan and Mine Closure Plan for Datima Coal Mine has been submitted for approval to Ministry of Coal as on 20.11.2023, same is under process.

## II. LAND USE DETAILS OF MINE

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

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

Land use pattern	Within ML (ha)	Outside ML (ha)	Total (ha)
Agricultural Land	313.78	0	313.78
Forest land	245.5	0	245.5
Waste Land	-	-	-
Grazing Land	-	-	-
Surface water Bodies	-	-	-
Settlements	195.00	0	195.00
Others (Govt. Non forest land)	53.63	0	53.63
<b>Total</b>	<b>807.91</b>		<b>807.91</b>

### Post Mining Land Use details (in Ha.)

Sl. No.	Description of area	Land use (Ha.)					Total
		Agricultural	Plantation	Water body	Public use	Undisturbed	
<b>I.</b>	<b>ML Area</b>						
1	External OB Dump	0.50	-	-	-	-	0.50
2	Topsoil Dump	-	-	-	-	-	-
3	Excavation	-	-	-	-	-	-
(a)	Backfilled Areas	-	-	-	-	-	-
(b)	Excavated void	-	-	-	-	-	-

4	Road	-	-	-	-	-	8.08
5	Built-up area	-	-	-	-	-	-
6	Green Belt	-	2.28	-	-	-	2.28
7	Undisturbed area	-	-	-	-	796.70	796.70
8	Safety Zone / Rationalization Area	-	-	-	-	-	-
9	Diversion / Below River / Nala / Canal	-	-	-	-	-	-
10	Water Body	-	-	-	-	-	-
11	Staff Colony	-	-	-	-	-	-
12	Others (UG entry)	0.35	-	-	-	-	-
(a)	Haul Road between quarries	-	-	-	-	-	-
(b)	Embankment	-	-	-	-	-	-
<b>Total</b>		<b>8.93</b>	<b>2.28</b>	<b>0.00</b>	<b>0.00</b>	<b>796.70</b>	<b>807.91</b>

- (ix) Total geological reserve reported in the mine lease area is 13.300 MT with 8.435 MT mineable reserve. Out of total mineable reserve of 8.435 MT, 4.208 MT are available for extraction. Percent of extraction is 31.64%.
- (x) 3 seams with thickness 0.05 - 3.64 m. Grade of coal varies from Grade varying from B to E (G5 to G14), G7 is average grade of coal. Stripping ratio is not applicable since this is an underground mine and gradient is 1 to 4 degree.
- (xi) Method of mining operations envisages by Underground fully mechanized method.
- (xii) Life of mine: 15 years
- (xiii) The project has 1 external dumps in an area of 0.50 ha with maximum 3 m height and 13,392 cum will be generated due to the creation of incline and shaft and utilized for the plantation area.
- (xiv) No quarry will be created since this is an underground mine while UG entry will be created in an area of 0.35 ha with a depth of 148 m No Backfill is proposed.

### III. TRANSPORTATION OF COAL

- (xv) Transportation of coal has been proposed through by road and/or road-cum-rail to company's cement plant at Shree Raipur Cement Plant (SRCP), village Khaparadih, Tehsil Simga, District Balodabazar - Bhatapada, Chhattisgarh. Coal mined from there will be loaded into the Gate Belt Conveyor through Shuttle cars. The Gate Belt in its turn will deliver the Coal into Trunk Belt system for transporting it to the surface bunkers where from trucks will be used for further transportation.
- (xvi) Reclamation Plan in an area of 11.21 ha, comprising of 0.50 ha of external dump, and 82.64 ha of greenbelt, 10.71 ha infra/ others.
- (xvii) 245.5 ha of forestland has been reported to be involved in the project. Application for the Forest Clearance in under process.

- (xviii) Tamor Pingla Wildlife Sanctuary at a distance of 8.7 km, North Wildlife Sanctuaries and Eco-Sensitive Zones fall within 10 km boundary of the project.
- (xix) Wildlife conservation plan for Schedule – I species (if any) will be submitted to competent authority before the appraisal for EC.
- (xx) Ground water table Pre-monsoon is 6.5 to 10 meter below ground level (m bgl) and Post-Monsoon is 0.5 to 2.2 meter below ground level.
- (xxi) Total water requirement for the project is 362 KLD.
- (xxii) Application for NOC for Ground Water Clearance from Central Ground Water Authority is under progress.
- (xxiii) The application for Consent to Operate for the project will be submitted once the project obtains the EC.
- (xxiv) There are no ponds in the villages within the proposed Datima Coal Mine area. There is a tributary to Pasang nala and its water collection area within the proposed Datima Coal Mine area. There will be no diversion of any nala or water body falling within the proposed Datima Coal Mine area.
- (xxv) Regular monitoring of ambient air quality will be carried out on fortnightly basis and the details will be incorporated in the Final EIA-EMP 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 and amendment issued there under. Since, this is a virgin mine so the coal production has not started yet.

#### **IV. BENEFITS OF THE PROJECT**

- (xxviii) R&R for the project is under preparation and will be submitted in final EIA-EMP report.
- (xxix) Total cost of the project is Rs. 250 Crore (25000 lakhs). The cost of production at pit head is about Rs. 3750 per tonne of coal approximately, The CSR Budget shall be as per the Companies Act 2013 which states that two percent (2%) of the average net profit of the company for last 3 (three) financial years.
- (xxx) The application for Consent to Operate for the project will be submitted once the project obtains the EC.
- (xxxi) Since, this is a virgin mine so the coal production has not started yet and hence the past Production details comparison with existing EC are not applicable.

#### **V. CONTROL OF POLLUTION: (A) AIR & (B) WATER**

- (xxxii) Environmental Baseline data is being monitored in the post - monsoon season i.e. from 01.10.2023 to 31.12.2023 at 12 locations. Baseline study is ongoing in post - monsoon season i.e. from 01.10.2023 to 31.12.2023.
- (xxxiii) Surface water Monitoring is being done at 6 locations. Baseline study is ongoing in post - monsoon season i.e. from 01.10.2023 to 31.12.2023.
- (xxxiv) PP shall provide the historical background of the project since its inception with regard to grant of EC and production capacity: This is Greenfield project and Proposal is submitted for approval of ToR.

**5.9.3** The EAC during deliberations noted the following:

- (i) The proposal is for Terms of Reference of underground coal mine to Datima mine.
- (ii) Life of mine: 15 years.
- (iii) 245.5 ha of forestland has been reported to be involved in the project. Application for the Forest Clearance is under process.
- (iv) Tamor Pingla Wildlife Sanctuary at a distance of 8.7 km, North Wildlife Sanctuaries and Eco-Sensitive Zones fall within 10 km boundary of the project.
- (v) Wildlife conservation plan for Schedule – I species (if any) will be submitted to competent authority before the appraisal for EC.

**5.9.4** *The EAC after deliberations observed that the instant proposal is a greenfield underground coal mine project wherein surface activity is limited to mining infrastructure, shaft/incline, stockyard etc. It was observed that the Tamor Pingla Wildlife Sanctuary situated at a distance of 8.7 km and Final ESZ notification has not been issued by Ministry till the date of EAC meeting. It was opined that PP shall take prior clearance from National Board of Wildlife for the project.*

*Further, the committee also took a note that the Stage-I Forest clearance will be required for 245.5 ha of forestland involved in the ML area. EAC emphasized that 245.5 ha of forest land lying inside the project area should not be disturbed to develop any type infrastructure and advised PP to improve the quality of forest with plantation and fencing over its entire area as per advise of local DFO. The committee observed that a hydrogeological study has been proposed for the mine lease area in order to maintain surface/Ground water level. Further it was stressed that a study must be conducted to reduce road transportation distance and avoid coal transportation from nearby village road/schools/hospital. Accordingly, study for the coal transportation shall be conducted and necessary provision for construction of bypass road with allocated fund shall be submitted in EIA/EMP report*

*It was observed that entry point / shaft entry for the mine and coal stock yard is near to the habitation and forest, on which it was suggested that the entry point of the mine may be at least 1Km away from the habitation (such as Forest & Village area) and if required mine plan may be modified.*

*Based on the above discussions, EAC **recommended** the proposal for Terms of Reference for Datima Underground Coal Mining for production capacity of 0.36/0.54 MTPA (Normative/Peak) in the ML area of 807.91 ha of M/s Shree Cement Ltd. located at village Rai in Taluka Bhatgaon, villages Datima & Kharsura in Taluka Surajpur, villages Kumda & Laxmanpur in Taluka Latori, District Surajpur (Chhattisgarh) with following additional specific conditions to be followed:*

**Specific conditions:**

- i. *PP shall submit Stage-I FC for the Forest land 245.5 ha lying within the ML area of 807.91 ha for non-forestry activity.*
- ii. *PP shall submit the NBWL clearance as the ML area falls within 10 km of the Tamor Pingla wildlife Sanctuary, located at a distance of 8.7 Km.*
- iii. *PP shall select the entry to the UG workings 1 Km away from the habitation (such as Forest & Village area) and conduct the site analysis study for the same.*
- iv. *Public Consultation, including public hearing, shall be conducted through concerned SPCB in*

*the concerned districts 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.*

- v. *The PP shall submit the transportation related option study to optimize the transportation system through rail/road.*
- vi. *PP shall submit Letter of Intent from concerned State Government based on allocation of coal block from Ministry of Coal.*
- vii. *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.*
- viii. *PP shall not plan any non-essential infrastructure of mining operation on non-coal bearing forest area.*
- ix. *PP shall conduct detailed subsidence study, its impact due to mining activity and propose mitigation/management measures.*
- x. *PP shall submit detailed project report and explore the possibility for implementation of railway siding to evacuate coal with its target date of completion.*
- xi. *Wind rose pattern in the area should be reviewed and accordingly location of AAQMS shall be planned by the collection of air quality data. 12 nos. of Monitoring location for collecting baseline data should cover overall 10 km buffer zone i.e. dispersed in 10 km buffer area.*
- xii. *Project proponent to prepare Environmental Cost Benefit Analysis for the project in EIA/EMP Report.*
- xiii. *PP shall provide the details of mining technology/methodology proposed to be adopted for coal mining operations and its associated environmental benefits of using from Climate Change perspective.*
- xiv. *Permission for ground water withdrawal shall be obtained from Central Ground Water Authority (CGWA) only for mining activity.*
- xv. *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 from a NABL/MoEF&CC accredited laboratory.*
- xvi. *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.*
- xvii. *PP shall propose to use LNG/CNG based mining machineries and trucks for mining operation and transportation of coal.*
- xviii. *PP shall submit letter from Principal Chief Conservator of Forest, State Government that the area does not falls under any Eco-sensitive zone and areas and further is no corridor of Elephants & Tigers. Also, it should include with certified map with exact distance from any Wildlife Sanctuary.*
- xix. *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.*

## **Agenda No. 5.10**

**Rajrappa Coal Washery with production capacity of 3 MTPA in an area of 16.03 ha by M/s Central Coalfields Limited located at villages Koihara and Gaurabera, District Ramgarh (Jharkhand) – For Environmental Clearance –reg.**

**[Online proposal No. IA/JH/CMIN/453070/2023; File No. IA-J-11015/26/2021-IA-II(M)]**

**5.10.1** The proposal is of Environment Clearance for Setting up of new Rajrappa Coal Washery with production capacity of 3 MTPA in the area of 16.03 Ha by M/s Central Coalfields Limited located at villages Koihara and Gaurabera, District Ramgarh (Jharkhand).

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

### **I. LOCATION OF PROJECT**

- i. The project is covered in Survey of India toposheet no. 73A/13 and 73E/1 and is bounded by latitudes Latitude: 23°34'40''N to 23°38'33''N and Longitude: 85°39'44''E to 85°42'45''E.
- ii. Coal linkage of the project is proposed for Washed Coal – SAIL, RINL- BSCS (Bokaro), DSP (Durgapur), RSP (Rourkela steel plant), Bhilai steel plant, V.S.P.S(Visakhapatnam steel plant), Etc. & For washed Coal Power- DVC, SAIL, NTPC- C.T.P.S (chandrapura), K.P.S.h(Koderma), BPSCL (SAIL-DVC), TANDA(NTPC), UCR (Uchahar-NTPC), DADRI(NTPC), DSP(DURGAPUR), Bhilai Steel plant, R.S.P etc.
- iii. No Joint venture has been formed for the project.
- iv. Project does not fall in Critically Polluted Area (CPA), where the MoEF&CC vide its OM dated 13th January 2010 has imposed moratorium on grant of environment clearance.
- v. Employment generation, project is source to direct employment of about 220 persons.
- vi. The project is reported to be beneficial in terms of Environmental benefit that the Washery will produce environment friendly clean coal to minimize the pollution levels. Financial benefits of the project will be reflected in the production of metallurgical grade coal to be used in steel plants thus resulting in saving to national exchequer by reduction in imports. Socio-economic benefits of the Project will accrue through direct and indirect employment to local population.
- vii. No prior environment clearance was granted to the project.
- viii. Terms of reference were granted vide File No. IA-J-11015/26/2021-IA-1(M) dated 10th October, 2021.
- ix. Total mining lease area as per approved conceptual report is 16.03 Ha and had been approved has been approved in the 514th CCL Board meeting held on 29.04.2022.

### **II. LAND USE DETAILS OF MINE**

- x. The land usage pattern of the project is as follows

#### **Pre-mining Land Use:**

<b>S. No.</b>	<b>Component</b>	<b>Within ML Area (Ha)</b>	<b>Outside ML Area (Ha)</b>	<b>Total</b>
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1	Agricultural Land	0	0	0
2	Forest land	15.85	0	15.85
3	Waste land	0.18	0	0.18
4	Grazing land	0	0	0
5	Surface Water Bodies	0	0	0
6	Settlements	0	0	0
7	Other (Specify)	0	0	0
<b>Total</b>		<b>16.03</b>	<b>0</b>	<b>16.03</b>

**Post-mining land use:**

S. No.	Type	Reclaimed Area	Un- reclaimed Area	Total
1	Excavation/Quarry Area:	0	0	0
	(a) Backfilled Areas	0	0	0
	(b) Excavated Areas	0	0	0
2	External OB Dump	0	0	0
3	Safety Zone	0	0	0
4	Roads & infrastructure	10.02	0	10.02
5	Garland Drains	0	0	0
6	Embankment	0	0	0
7	Others (Green Belt)	6.01	0	6.01
<b>Total</b>		<b>16.03</b>	<b>0</b>	<b>16.03</b>

- xi. Washing of coal is proposed through Heavy media cyclone technology.
  - xii. Life of washery is 18 years (Excluding construction, commissioning duration etc.)
- III. TRANSPORTATION OF COAL**
- xiii. The transportation of coal from mine to washery is proposed to be transported by internal roads within leasehold area with the help of rear loading dumpers. Transportation within the washery site will be through closed conveying systems. Clean Coal and washed coal will be transferred through conveyor belt and mechanical loading to the Rapid loading system.
  - xiv. Reclamation Plan in an area of 1430.85 Ha comprising of 1299.56 Ha of internal dump, 16.43 Ha of Embankment, 95.44 Ha of green belt and safety zone, 19.42 Ha land for Infrastructure has also been proposed for reclamation.
  - xv. 15.85 Ha Forest land has been identified in the project for which Stage-II FC has been issued on 15.03.2007 for Rajrappa OCP. The online application for change in land use has been submitted to Parivesh on 30.10.2023 vide proposal no: FP/JH/REDIV/450719/2023. Earlier the application was done in offline mode and was submitted to DFO Ramgarh on dated 12.04.2021 vide letter no. PO(RWP)/E&F/New Washery/21/150.
  - xvi. No National Parks, Wildlife Sanctuaries and Eco-Sensitive Zones fall within 10 km boundary of the project.
  - xvii. Conservation plan for schedule – I species has been prepared and submitted to DFO Ramgarh.

- xviii. The ground water level has been reported to be varying between 6.50 m to 6.55 m (Pre-monsoon) to 4.80 m to 4.90 14 m (Post-monsoon).
- xix. Total water requirement for the project is 1364 m<sup>3</sup> per day.
- xx. In the proposed washery, no ground water will be used in washery operation.

#### IV.DETAILS OF PUBLIC HEARING & RELATED ISSUES

- xxi. The project area of Rajrappa Coal Washery falls in Ramgarh district of Jharkhand. Public hearing for the project of 3 MTPA capacity in an area of 16.03 Ha was conducted at Officer's Club, Rajrappa Area on dated 01.09.2023 under the Chairmanship of Shri. Robin Toppo, Additional Collector, Ramgarh district. Major issues raised include employment, education, electricity, drinking water, pollution etc. It has been proposed to spend around 6.33 crores towards compliance of the issues raised during the public hearing of Rajrappa Coal Washery.
- xxii. Commitment made by the Project Proponent to address the Public Hearing concerns in lieu of Corporate Environment Responsibility (CER) to be mentioned in the following table:

S. No.	Item	Amount in Rs Lakh	Timeline
1	Solar lights for domestic usage in Buchungdih, Sandi and Mael (450 Units)	171	2nd and 3rd Year
2	Solar streetlights in Bhuchungdih, Sandi & Mael (100 Units)	40	2nd and 3rd Year
3	RO Plant in 3 proposed borewells in Buchungdih and Sandi	15	Year 1
4	RO plant in Mael village (1 nos.) including Deep Bore well	13	Year 2
5	Skill Development training (electrician, Plumbing and Motor Driving with license) (150 Beneficiary)	18	3 years
6	E-dispensary at Buchungdih including free medicine for 3 years	15	3 years
7	Renovation of existing pond and shed construction at Mael village.	30	2 <sup>nd</sup> Year
8	Community Hall at Mael (10 m X15 m).	30	2 <sup>nd</sup> Year
9	1000 sapling distribution/year for 3 years	1	3 years
10	Construction of check dam on nala in Bhuchungdih Village	100	2 <sup>nd</sup> year
11	Repair of existing road and drain 500 m will be undertaken.	30	1 <sup>st</sup> year
12	First aid room at Rajrappa temple	20	2 <sup>nd</sup> year
13	Waiting room at Rajrappa Temple	50	2 <sup>nd</sup> year



14	Livelihood initiative by setting up of Garment manufacturing set up	100	2 <sup>nd</sup> year
	<b>Total</b>	<b>633</b>	

- xxiii. River Damodar and River Bhairavi flow across the Rajrappa Area and form the main drainage of the area at a distance of 2.9 Km.
- xxiv. Regular monitoring of ambient air quality shall be carried out on fortnightly basis. The documented report shall be submitted to JSPCB and also to MOEF&C along with half yearly EC compliance report.
- xxv. No court cases, violation cases are pending against the project of the PP.
- xxvi. The project does not involve violation of the EIA Notification, 2006 and amendment issued thereunder.

## V. BENEFITS OF THE PROJECT

- xxvii. The project involves Nil project affected families.
- xxviii. Total cost of the project is Rs. 510 Crores. Cost of production is Rs. 3731.99/Tonne (including cost of raw coal and operating cost). 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. Capital Cost of Environmental Control Measures is Rs. 34.03 Crores and Revenue Cost of Environmental Control Measures is Rs.1.59 Crores.

## VI. CONTROL OF POLLUTION: (A) AIR & (B) WATER

- xxix. Environmental Baseline data was generated in the Pre-monsoon season from 01.01.2023 to 31.03.2023. The result indicates that the maximum and minimum values of PM<sub>10</sub> are in the range of 174 µg/m<sup>3</sup> to 42 µg/m<sup>3</sup>, whereas the PM<sub>2.5</sub> are in the range of 48 µg/m<sup>3</sup> to 22 µg/m<sup>3</sup>. The SO<sub>2</sub> concentrations within the study area are in the range of 39.5 µg/m<sup>3</sup> to 7.6 µg/m<sup>3</sup> and the NO<sub>x</sub> are in the range of 25.1 µg/m<sup>3</sup> to 5.4 µg/m<sup>3</sup>. The observed pollutant levels were compared with CPCB National Ambient Air Quality Standards & Standards for Coal Mines issued by MoEF&CC, GSR-742 E dated 25.09.2000 and found to be under limit.
- xxx. Surface water Monitoring was done at 05 locations. The results indicate that the max. DO (mg/l) ranges from 6.2 to 7.3, TDS (mg/l) ranges from 174.0 to 295.0, TSS (mg/l) 14 to 25.

### 5.10.3 The Committee during deliberations noted the followings:

- i. PP has obtained the ToR vide File No. IA-J-11015/26/2021-IA-1(M) dated 10<sup>th</sup> October, 2021.
- ii. Stage-II FC for 15.85 Ha of Forest land had been obtained on 15.03.2007 for Rajrappa Open Cast coal mine. Application for change in land use has been submitted through online on Parivesh portal vide proposal no: FP/JH/REDIV/450719/2023 dated 30.10.2023. Earlier, an offline application was submitted to DFO Ramgarh vide letter no. PO(RWP)/E&F/New Washery/21/150 on dated 12.04.2021.

- iii. The transportation of coal from mine to washery is proposed to be transported by internal roads within leasehold area with the help of rear loading dumpers. Transportation within the washery site will be through closed conveying systems.
- iv. No National Parks, Wildlife Sanctuaries and Eco-Sensitive Zones fall within 10 km boundary of the project.
- v. Rajrappa Coal Washery falls in Ramgarh district of Jharkhand. Public hearing for the project of 3 MTPA capacity in an area of 16.03 Ha was conducted on 01.09.2023 under the Chairmanship of Additional Collector, Ramgarh district.
- vi. River Damodar and River Bhairavi flow across the Rajrappa Area and form the main drainage of the area at a distance of 2.9 Km.
- vii. PP has submitted the following revised financial and physical action plan for addressing the issues raised during Public Hearing:

<b>S. No.</b>	<b>Particulars</b>	<b>Cost in Lakhs</b>	<b>Timeline</b>
1	Solar energy systems(including solar panel, inverter and battery) for domestic usage in Bhuchungdih, Sandi and Mael (450 Units)	171	Year 2 and Year 3
2	Solar streetlights in Bhuchungdih, Sandi & Mael (100 Units)	40	Year 2 and Year 3
3	RO Plant in 3 already proposed borewells in Buchungdih, Chotki Lari and Sandi along with 3 years maintenance	18	Year 1
4	RO plant in Mael village (1 nos.) including Deep Bore well and 3 years maintenance.	16	Year 1
5	Skill Development training (electrician, Plumbing and Motor Driving with license) (150 Beneficiary)	18	3 years
6	E-dispensary at Bhuchungdih including free medicine for 3 years and 01 no. of ambulance along with driver.	45	3 years
7	Renovation of existing pond and shed construction at Mael village	30	Year 2
8	Community Hall at Mael (10 m X15 m) with male and female toilets.	32	Year 2
9	3000 fruit bearing sapling distribution/year for 3 years among villagers	9	3 years
10	Construction of check dam on nala in Bhuchungdih Village	100	2 years
11	Repair of existing road and drain 500m will be undertaken	30	Year 1
12	First aid room at Rajrappa temple	20	2 years
13	Waiting room at Rajrappa Temple	50	2 years

14	Livelihood initiative by setting up of Garment manufacturing set up	100	2 years
<b>Total</b>		<b>679</b>	

viii. PP has submitted the following proposed EMP budget as incorporated in the EIA/EMP for Rajrappa Coal Washery:

<b>Proposed Air Pollution Control Measures</b>				
<b>No.</b>	<b>Source</b>	<b>Pollution Control Measure</b>	<b>Details</b>	<b>Cost (in Rs. Lakh)</b>
1	Stock Yard	Wind Curtains along Stock Yard	Stock yard shall be enclosed with wind curtains	20
2		Static Fog Cannon	2# static fog canons at loading and unloading points	14
3	Conveyor Belt System	Water spraying	Water spraying on conveyor belt system	16
4		Impact roller	To absorb the shock of loaded material and reduce fugitive dust emission	20 5
5	CHP	Fixed sprinkling near hopper	Fixed sprinkling over unloading point at Hopper	40
6		Closed crushing and Automated sprinkling system	Automated Fixed Sprinkling System and Dust Extraction System at Primary and secondary crushers	20 300
7	Reject Dumps	Wind Barrier	Permanent wind screens along the reject site of perimeter 540 m	300
8	Storage Site	Covered shed for mitigation of dust pollution	Covered sheds to be constructed over storage sites	80
9	CTR	PQC Road	PQC road from stock yard to washery site	75
10		Mobile Fog Canons	2 nos. of mobile fog canons for dust suppression	20
11		Avenue Plantation	3 row plantation on both sides of road	14
<b>Total Cost of Air Pollution Control Measures in Rs.Lakhs (A)</b>				<b>890 Lakh</b>
<b>Proposed Water Pollution Control Measures</b>				
1	Garland drains around ROM stockyard and tertiary product dump			100
2	Sedimentation ponds of capacity 8000 cum			200
3	Rainwater Harvesting			100
4	ETP with thickener			300
5	Filter press			500
6	Slurry pond			200

<b>Total Cost of Water Pollution Control Measures in Rs. Lakhs (B)</b>		<b>1400 Lakh</b>
<b>Other Measures</b>		
1	Development of Green belt all along the project boundary and other dust emitting sources	113
2	Development of SAL plantation over 20 Ha @ 50 Lakhs/ Ha	1000
<b>Total Cost of Water Pollution Control Measures in Rs. Lakhs (C)</b>		<b>1113 Lakh</b>
<b>Total Capital Cost of EIA/EMP Measures of Rajrappa Washery (a+b+c)</b>		<b>3403 Lakh</b>

- ix. PP has submitted the following additional air pollution control measures to reduce impact of air pollution due to the existing OCP:

<b>Activity</b>	<b>Details</b>	<b>Capital Cost (in Rs. Lakhs)</b>	<b>Tentative timeline of Completion</b>
Fog cannon	3 nos. of static fog cannon for coal stock yard	20	Mar' 24
Wind Barrier	Permanent Wind Barrier of length 850 m around the periphery of coal stock	100	Jun'24
Avenue Plantation	Avenue plantations along the road near Koihara Village 1 km	40	Jul' 24
PCC Topping on Coal Transportation Road	PCC road of length 1.7 km	800	Jul' 24
<b>Total</b>		<b>960</b>	

**5.10.4** The Committee after deliberation observed that the instant proposal is a greenfield coal washery project of coking coal that is to be mined from Rajrappa OCP (adjoining coal mine). PP informed that no coal washery rejects is envisaged since calorific value of coking coal grade rejects is high and can be used in thermal power plants that has economic value. EAC desired that PP shall not dump/disposed of any rejects in its mine area and the same shall be used only in Thermal Power Plant as per Ministry's notification.

It was also observed that the instant project lies in Ramgarh District wherein CEPI Score is 66.75 which comes under the category of Severely Polluted Area (SPA). During deliberation, PP informed that though the project lies in Ramgarh, project area is approx. 19 km away from the boundary of Severally polluted area of Ramgarh, Jharkhand. Letter dated 17<sup>th</sup> December, 2023 from Jharkhand State Pollution Control Board has been submitted by PP.

Since base line values of ambient air quality is slightly on higher side due to adjacent mining operation, therefore the Committee desired that PP should implement effective EMP measures for instant project as well as Rajarapp OCP. Also PP to address the public hearing issues with the appropriate budget. The Committee highlighted some of the important public hearing issues such as to provide ambulance facility, facility for RO water to local people along with their maintenance facility and basic local demands. PP in this regard submitted the revised budget to address the Public Hearing issues and enhanced it from Rs. 633 Lakhs to Rs. 679 Lakhs vide letter dated 23.12.2023. Further, Rs. 3403 lakhs as EMP cost has been proposed to spend and additional amount of Rs. 960 lakhs has also been proposed as EMP for improvement of air quality near due to the adjacent mine.

The Committee also emphasized to use Cleaner fuel engine/Gas engine in order to reduce the pollution load on environment. It was also desired to use rail network for the transportation of washed coal. Coal from mine to washery shall only be transported in closed conveyer belt.

Based on the above discussions and submission of the documents, EAC **recommended** the proposal for Rajrappa Coal Washery with production capacity of 3 MTPA in an area of 16.03 ha by M/s Central Coalfields Limited located at villages Koihara and Gaurabera, District Ramgarh (Jharkhand), under the provisions of EIA Notification, 2006 and its amendments therein with specific conditions for environmental safeguards mentioned below:

**Specific conditions:**

- i. PP to obtain the CTO for 3.0 MTPA capacity after grant of EC.
- ii. PP shall not use any vehicles/trucks/dumpers for transportation of raw coal, washed coal and only use conveyor system from mine to coal washery and washery to railway siding for washed coal. These conveyor systems shall be commissioned along with commissioning of coal washery i.e. within 2 years of grant of EC, accordingly SPCB shall grant Consent to Operate to the project.
- iii. PP shall prepare and design the layout of washery in such a way that least number of already existing is cut and accordingly approval of DFO shall be obtained prior to cutting of trees.
- iv. PP shall construct 20ft height wind barrier with galvanized/metal sheet all around the boundary of washery and install fixed type water sprinkler with through length of atleast 30 mts length.
- v. All the road proposed to be constructed inside and around the periphery of the washery plant shall be of concrete road only.
- vi. 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.
- vii. PP shall fulfill the demands of local people on immediate basis such as to provide ambulance facility, facility for RO water to local people along with their maintenance facility and other basic demands.
- viii. PP shall implement the activities-wise proposed budget of Rs. 679 lakhs Public Hearing Budget and Capital cost of Rs. 3403 Lakhs as EMP in time bound manner. The details of annual expenditure incurred shall be part of report to be submitted to IRO, MoEF&CC. PP needs to include the audited figures against the expenditure and activities to be monitored through dedicated monitoring mechanism. The maintenance of all activities shall be covered through recurring cost of Public Hearing, and continued as a part of CSR budget.

- ix. *PP shall spend an additional amount of Rs. 960 lakhs as proposed to improve air quality due to nearby mines.*
- x. *PP shall use of Gas engine/ Cleaner fuel engine for use of machines or as power back up to reduce the pollution load on environment.*
- xi. *Thick green belt of 50 m width to be provided around the washery to mitigate/check the dust pollution (6.01 ha). A 3-tier avenue plantation having 38% plantation of total area should also be developed along vacant areas, storage yards, loading/transfer points, and also along internal roads/main approach roads. A detailed action plan prepared through a forestry organization preferably under MoEFCC (eg ICFRE) with adequate budgetary provision should be submitted within 6 months to IRO. Aerial images in this regard needs to be submitted in six monthly reports to IRO. PP shall spend Rs. 15 Lakhs and Annual Recurring Cost for greenbelt - Rs. 50 Lakhs for development of greenbelt. The plant density should be 1000 plants per Hectare.*
- xii. *As proposed by PP, no ground water and surface/river water shall be extracted for washery operation. For domestic water usage, PP may use mine water after treatment.*
- xiii. *PP shall develop rain water harvesting facility within the premise of coal washery area and PP shall develop 2 water harvesting pond in nearby villages of suitable area in consultation with Gram Panchayat within 1 year.*
- xiv. *The technology so chosen for ETP within washery should conform to 'Zero Liquid Discharge'. No treated & untreated wastewater shall be discharged outside the boundaries of project area.*
- xv. *PP to install 1 continuous ambient air quality monitoring stations at suitable locations preferably village side with consultation of SPCB before commission of washery operations. The real time data so generated shall be uploaded on company website and linked it with website of CPCB &SPCB. In addition, data should also be displayed digitally at entry and exit gate of mine lease area for public display.*
- xvi. *Heavy metal content in raw coal, and washed coal shall be analyzed once in a year and records maintained thereof and it should be reported in IRO, report.*
- xvii. *PP to undertake the recruitment of a full-fledged qualified manpower with Environmental Engineer/Env. Science degree background in Environment Management Cell etc at coal washery plant for compliance of EC conditions.*
- xviii. *Solar street light to be installed with its proper maintenance along the road of incoming raw coal to avoid accident in nearby villages and a record must be furnished to IRO IRO with six monthly compliances.*
- xix. *The fog cannon must be installed at periphery of the washery located near to the villages in order to suppress the dust.*
- xx. *Raw coal, washed coal and rejects shall be stored in covered silos or in dome shaped storage facility. Fixed type high pressure sprinkler shall be installed in this storage yards.*
- xxi. *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.*
- xxii. *PP must also carry out plantation drive (fruit bearing trees, local species etc) with its proper maintenance in nearby villages by seeking consent of gram panchayat and villagers in coming monsoon and a proper record must be furnished to IRO with six monthly compliances.*

- xxiii. *The PP must provide the workers proper PPE and must also trained them and a record of training must be furnished to IRO.*
- xxiv. *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.*
- xxv. *PP shall conduct Sal plantation in and around the washery premises within a years and no exotic species should be planted. Further, sal saplings will be planted in 20 Ha with an estimated cost of Rs. 1 Crore.*

### **Agenda No. 5.11**

**Kerendari ‘A’ Coal Mine Block (6 MTPA in project area of 1173 ha) of M/s National Thermal Power Corporation Ltd., located in North Karanpura Coalfields in District Hazaribagh (Jharkhand) – For Amendment of EC dated 31.03.2010 & subsequent Transfer of EC dated 28.10.2015 reg.**

**[Online proposal No. IA/JH/CMIN/443765/2023; File No. J-11015/133/2007-IA.II(M)]**

**5.11.1** The proposal is for amendment in EC for Kerendari ‘A’ Coal Mine Block (6 MTPA in project area of 1173 ha) of M/s National Thermal Power Corporation Ltd., located in North Karanpura Coalfields in District Hazaribagh (Jharkhand).

**5.11.2** The EAC during deliberations noted the followings:

- i. Environment Clearance (EC) to the project Kerendari ‘A’ Coal Mining Project of 6 MTPA peak capacity in mine lease area of 654 ha was accorded by Ministry’s vide letter No.: J11015/133/2007-IA. II (M) dated 31.03.2010 to M/s NTPC Limited.
- ii. Hon’ble Supreme Court of India vide Judgement dated 25th August, 2014 read with orders dated 24th September, 2014 has cancelled the allocation of 204 coal blocks which include the North Karanpura Coal Fields.
- iii. Subsequent to cancellation of coal blocks in pursuance of the order of Hon’ble Supreme Court, the said coal mine was allocated again to M/s NTPC Limited vide vesting order No. 103/29/2015/NA dated 8th September, 2015 issued by the Nominated Authority in the Ministry of Coal. Ministry has issued a notification dated 23rd March, 2015 to facilitate transfer of ECs in such cases without referring to the sectoral EAC.
- iv. Pursuant to the said Notification, Ministry has transferred/revalidated EC to M/s NTPC Limited on 28.10.2015 with certain terms & conditions therein
- v. Now, PP has requested an amendment in specific conditions no. 2A (xi) and 2A (xiv) of Environment Clearance (EC) with respect to the permission for transportation of coal by road from KDCMP to Shivpur, Bachra, Bira Toli, Kusmahi, Tori & Katkamsandi railway sidings and transport of coal by road to North Karanpura Super Thermal Power Plant (NKSTPP).

*2A (xi) Raw coal from CHP shall be transported by closed conveyors to the railway siding proposed at village Khadamdari and thereafter by rail to the linked Tanda/Barh STPP. The conveyor cum rail corridor consisting of a stretch of 13.1 km of rail and 10.5 km of overhead closed conveyors and extend upto unloading part at the Railway Siding with Silo Loading facilities and from there to linked Barh STPS/Tanda by rail. There will be no road transportation of coal.*

*2A (xiv) Company's Railway siding at village Khadambari shall be established within 3 years from date of grant of environmental clearance.*

- vi. PP has requested an amendment sought w.r.t. the specific condition no. 2A (xi) and 2A (xiv) of EC letter no. J-11015/133/2007-IA. II(M) dated 31.03.2010 as follows:
- (a) Change in mode for transportation of coal by road through covered tippers/dumpers from mine to Shivpur, Bachra, Kusmahi, Bira Toli, Tori & Katkamsandi railway sidings (over a distance of 27 km, 38 km, 84 km, 95 km, 96 km, & 96 km respectively) for a period of three (03) years or till the associated railway siding become operational, whichever is earlier, for supply to Tanda/Barh STPP and transport of coal by road to NKSTPP (over a distance of 24 km).

**Reason for the amendment:** Kerandari Coal Mining Project (KDCMP) has not started coal production yet and no coal transportation has taken place. The coal production is expected to start in January, 2024.

The detailed reasons for delay in start of mining operation and delay in establishment of coal transportation system are summarized as follows:

- i. Pre-requisite to start the construction work of CHP is the availability of encumbrance free land that is not available for the entire stretch of common coal evacuation corridor of CBCMP & Kerandari Coal Mining Project (KDCMP). Coal evacuation corridor from CBCMP & KDCMP falls under forest area which is approximately 5.06 km out of total 9.6 km length. For construction of CHP, NTPC had awarded the contract to M/s L&T on 27.09.2019 immediately after obtaining the Stage-II Forest Clearance on 28.08.2019; However, approval for forest land transfer was accorded by Govt of Jharkhand on 23.12.2021. Subsequently, Tree cutting permission was received only on 08.03.2022.
- ii. Schedule for construction of CHP is minimum 24 months from the date of front handover. Land Acquisition and R&R issues along the CHP corridor at times has stalled the construction work.
- iii. Further, the construction work was delayed due to Covid-19 and law & order issue in the area and at times works was stalled by local villagers and even contractor's persons were manhandled. Unfortunately, one executive of the construction agency was shot dead on 19.02.2021 by miscreants. Communication regarding the incident had also been provided to Ministry of Power. At present approx. 50% of conveyor work is completed till date and the balance work is expected to be completed by October' 2024.
- iv. The alternate alignment connecting Urda to Railway network at Tori-Shivpur-Kathautia section is still under planning by Railways. The matter has been raised at all meetings with Railways and recently with East Central Railway (ECR) during meeting held on 01.05.2023 at Patna. In the meeting dated 06.07.2023 at Dhanbad, ECR confirmed that Final Location Survey (FLS) &



Detailed Project Report (DPR) is under preparation and construction of railway siding would take minimum 03 years after approval from Railway Board.

- v. PP has informed that the Kerandari Coal Mining Project (KDCMP) has not started coal production yet and no coal transportation has taken place. The coal production is expected to start in January, 2024.

**5.11.3** *The EAC after deliberations observed that the instant proposal is for extension of timeline for transportation of coal by road as amendment in EC condition dated 31.03.2010. PP informed that the mine operation has not been started till the date and submitted the reason of delay is on account of obtaining Stage-II Forest Clearance & forest land transfer in NTPC's name, and law & order issues with land acquisition problem.*

*The PP had originally planned to evacuate coal through common conveyor of 9.6 km long from CB&KD block to Khadamdari (now revised to Urda) village and further through Railway line from Urda village to the linked Barh/Tanda STPP via Kharika station (a proposed station in Shivpur-Hazaribagh line).*

*EAC noted the submission of PP wherein the contract was signed with M/s L&T on 27.09.2019 for construction of conveyor belt and approximately 50% of the closed conveyor work has been completed and balance work is expected to complete by October 2024. PP committed that M/s NTPC will pursue with Ministry of Power to coordinate with Ministry of Railways for expeditious construction of Railway siding, which is in their domain to ensure railway transportation to respective linkage.*

*The Committee realised that no production has so far been started and construction works are underway. While discussing the proposed route of road transportation, the Committee desired that no road transportation shall be followed through villages or sensitive locations such as schools, hospital rather; nearest possible location of railway siding shall be used for transporting the coal using road till functionality of mechanized system. As informed by PP, the nearest railway siding of Shivpur and Bachra Railway siding shall be used instead of Kusmahi Railway siding which is 92 km away. Further, as proposed construction of road for shivpur siding shall be immediately completed with adequate pollution mitigation measures such as water sprinkler and tree plantation along the road.*

*In view of above, EAC **recommended** the proposal for grant of amendment in Environment Clearance to Kerandari 'A' Coal Mine Block (6 MTPA in project area of 1173 ha) of M/s National Thermal Power Corporation Ltd., located in North Karanpura Coalfields in District Hazaribagh (Jharkhand) by extending timeline for construction of closed belt conveyor upto October, 2024 & construction of railway siding for period of March, 2025 w.e.f 31st January 2024, and under the provisions of EIA Notifications, 2006 and its amendments therein with following specific conditions for environment safeguards:-*

- i. *As proposed, PP shall complete the work of conveyor and CHP by October, 2024 and railway siding by March, 2025.*
- ii. *PP shall submit the approved revised Mine Plan with progressive reclamation for change in land use / area of forest land as per approvals obtained to IRO, MoEF&CC.*

- iii. *PP shall avoid transporting coal by road through forest land without permission from concerned Forest Department.*
- iv. *PP shall not use any village road and road along sensitive locations such as schools, hospitals etc. for transportation of coal by dumpers/trucks.*
- v. *PP shall use the road having width more than 7 mts with tarpaulin covered 40-50 (payload) dumpers/trucks. Further, State Pollution Control Board shall ensure the emissions of trucks by regular inspections.*
- vi. *M/s NTPC shall write to Ministry of Power to co-ordinate with Ministry of Railways for expeditious construction of Railway siding near to the proposed location.*
- vii. *PP shall maximum use the nearest location of railway siding (Shivpur & Bachra) for transporting the coal instead of using road for long distance.*
- viii. *As proposed, construction of road for enroute shivpur siding shall be immediately completed with water sprinkler and tree plantation along the road.*
- ix. *PP shall install atleast 10 nos of fog cannon in mine lease, overburden dump and transportation route within 6 months.*
- x. *PP shall establish Environmental laboratory at project site by March 2024 and create Environmental Management Cell to monitor the issues related environmental degradation.*
- xi. *PP shall explore at least 20% of overall fleet size of dumpers/trucks as electrical or CNG/LNG based dumpers/trucks for transportation of coal/OB etc and deploy e-vehicles for workers/staff in/out of the mine.*
- xii. *PP shall ensure the compliance of expenditure to be incurred for wildlife conservation plan submitted to the State Govt. and the details expenditure shall be submitted with six monthly EC compliance report to Ministry's IRO. Also, PP shall engage State Biodiversity Authority and local biodiversity committee for implementation of CSR activity for developing the local market.*
- xiii. *PP shall create a "Public Grievance Redressal and Monitoring System" for resolving any issues related to the pollution of mines and complaint has to resolve as soon as possible not beyond 30 days. In this regard, adequate awareness to be spread among the public to address their grievance to company with simple and easy manner and for which company needs to devise the mechanism. The same shall be reported to IRO within 3 months. A logbook to be maintained by PP on "Public Grievance Redressal and Monitoring System."*
- xiv. *PP shall submit certified compliance report of EC vide letter No. J-11015/120/2007-IA. II (M) dated 31st March, 2010 and later re-validated letter dated 28.10.2015.*
- xv. *PP shall commission a study for evaluating the impact of air pollution generated by its activities on the forests upto a distance of about 10 kms through an institution of MoEFCC.*

### **Agenda No. 5.12**

**Expansion of Amrapali Opencast Coal Mine from 20.16 MTPA to 24.19 MTPA (Peak) in an ML area of 619.87 ha of M/s Central Coalfields Limited located in District Chatra (Jharkhand) - For Environmental Clearance under OM dated 11.04.2022 (Stage-I - 20% expansion) - reg.**

**[Online Proposal No. IA/JH/CMIN/453880/2023; File No. J-11015/109/2003-IA-II(M)]**

**5.12.1** The proposal is for Environmental Clearance for Expansion of Amrapali Opencast coal mining project from 20.16 MTPA to 24.19 MTPA (Peak) in ML area of 619.87 ha of M/s Central Coalfields Limited located in District Chatra (Jharkhand) under provisions of 7(ii) of EIA Notification, 2006 under the provisions of OM dated 11.04.2022.

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

**I. LOCATION OF PROJECT**

- i. The project is covered in Survey of India toposheet no. 73-A/13(RF 1:50000) and is bounded by co-ordinates 23° 52’ 36” to 23° 53’ 53” and 84° 58’ 44” & 85° 01’ 32”.
- ii. Coal linkage is proposed through basket linkage & e-auction.
- iii. No Joint venture cartel has been formed for the project.
- iv. Project does not fall in Critically Polluted Area (CPA), where the MoEF&CC vide its OM dated 13<sup>th</sup> January 2010 has imposed moratorium on grant of environment clearance.
- v. Employment generation, about 745 permanent & 8000 in-direct employment is being provided from the project.
- vi. The project is reported to be beneficial in terms of Environmental benefit that Reclamation activities will be carried out throughout the life of mine and post closure as per progressive and final mine closure plan. Socioeconomic benefits of the Project will accrue through direct and indirect employment to local population and financial benefit in terms of contribution to exchequer etc.
- vii. Earlier, the Environment Clearance to the project was obtained vide Ministry’s letter No: J-11015/109/2003-IA. II(M) Dated: 03.01.2006 for 12 MTPA in an area of 1426.08 Ha. The EC was revalidated on 28.02.2020, under EIA-2006, for 12 MTPA and the project area was revised to 619.87 Ha. The project was granted environmental clearance for a capacity of 14.4 MTPA within the project area of 619.87 Ha vide letter no: J-11015/109/2003-IA. II(M) under clause 7(ii) of EIA-2006. Subsequently, MoEF&CC accorded EC of 20.16 MTPA in an area of 619.87 Ha on 20.05.2021. The EC was amended on 12.05.2023.
- viii. Total project area is 619.87 Ha. Mining Plan (Including Progressive Mine Closure Plan) has been approved in the 494<sup>th</sup> CCL Board meeting held on 04.12.2020.

**II. LAND USE DETAILS OF MINE**

ix. The land usage pattern of the project is as follows

**Pre-mining Land Use:**

<b>Description</b>	<b>Forest Area</b>	<b>Non-Forest Area</b>	<b>Total Area in Ha.</b>
Quarry	392.75	32.47	425.22
External OB Dump	60.14	29.02	89.16
Industrial Area (W/S, S/S, Haul Road etc)	56.75	4	60.75
Safety Zone & Green belt	14.7	14.22	28.92

Embankment/Garland Drain/ Diversion of Public Road/ Nala Diversion	7.3	8.52	15.82
<b>Total</b>	<b>531.64</b>	<b>88.23</b>	<b>619.87</b>

### **Post-mining land use:**

<b>Description</b>	<b>Plantation</b>	<b>Water body</b>	<b>Public Use</b>	<b>Un-disturbed</b>	<b>Total Area in Ha.</b>
Quarry	178	247.22	-	-	425.22
External OB Dump	77.16	-	12	-	89.16
Infrastructure	-	-	60.75	-	60.75
Safety Zone & Green belt	26.12	-	2.80	-	28.92
Embankment/Garland Drain/ Diversion of Public Road/ Nala Diversion	-	-	15.82	-	15.82
<b>Total Project Area</b>	<b>281.28</b>	<b>247.22</b>	<b>91.37</b>	<b>-</b>	<b>619.87</b>

- x. Total geological reserve is 486.50 MTe in Amrapali Block and 203.31 MTe in Kishanpur Block. The balance mineable reserve is 30.51 MTe. The percent of extraction would be 100 %.
- xi. 08 seams with thickness ranging from 1 m – 20 m are workable. Grade of coal is Grade-F, stripping ratio 1.05, while gradient is 3° to 7°.
- xii. The method of mining would be opencast method of mining with Surface miner and shovel-dumper combination.
- xiii. Balance Life of mine is 02 years.
- xiv. The project has 1 external OB dumps in an area of 89.16 Ha with 60 m height and 24.41 Mm<sup>3</sup> of OB. 2 internal OB in combined area of 271.71 ha with 74.95 Mm<sup>3</sup> of OB is envisaged in the project.
- xv. Total Quarry area is 425.22 Ha. The final mine void would be in 247.22 Ha with maximum depth up to 70 m below GL. Backfilled quarry area is of 178 Ha, out of which 178 Ha shall be reclaimed with plantation. Final mine void will be used for OB storage from the future expansion of project.

### **III. TRANSPORTATION OF COAL**

- xvi. At present, coal is being dispatched through Shivpur railway sidings which is at 07 km from the mine. Coal transportation from mine to railway siding is done by covered tipping trucks. A new pit head Amrapali railway siding for dispatch and transportation of coal from mine to siding through covered conveyor belt system is under construction. As per Amended EC (20.16 MTPA) condition issued on 12th May 2023, a timeline of 18 months has been given from May 2023 to January 2025 for construction of CHP, Silo and Completion of Amrapali Railway Siding work.

- xvii. Reclamation Plan in an area of 281.28 Ha, comprising of 77.16 Ha of external dump, 178 Ha of internal dump and 26.12 ha of green belt & safety zone.
- xxviii. 531.64 ha of forestland has been reported to be involved in the project. Approval under the Forest (Conservation) Act, 1980 for diversion of 531.64 Ha of forestland for non-forestry purposes has been obtained vide MoEF&CC letter No. F.No.8-48/2008-FC Dt.12.10.2010.
- xix. No National Parks, Wildlife Sanctuaries and Eco-Sensitive Zones fall within 10 km boundary of the project.
- xx. Conservation plan for schedule – I species has been prepared and submitted to DFO.
- xxi. The ground water level has been reported to be varying between 1.40 m to 4.95 m Pre-monsoon and 2.45 m to 4.65 m Post-Monsoon in Core Zone.
- xxii. Total water requirement for the project is 3,880 KLD including water demand of colony.
- xxiii. The application (21-4/328/JH/MIN/2018) for renewal submitted for Ground Water Abstraction of 4,929 m3/day on 03.02.2023 as per Mining plan for 25 MTPA capacity.

#### IV. DETAILS OF PUBLIC HEARING & RELATED ISSUES

- xxiv. Public hearing for the project of 25.00 MTY capacity in an area of 619.87 Ha was conducted on 17.11.2020. Major issues raised in the public hearing include mitigation of air & water pollution, compensation, employment opportunity, medical facilities & provision of drinking water etc. Appropriate action to address the issues raised in the Public Hearing shall be taken.
- xxv. Commitment made by the Project Proponent to address the Public Hearing concerns in lieu of Corporate Environment Responsibility (CER) to be mentioned in the following table:

S.No.	Area of Focus	Fund allocation in Rs. Lakhs
1	Infrastructure Development (Construction of Road, Electricity, Drinking Water etc.)	150
2	Skill Development & Employment	80
3	Medical Camp, Health & Hygiene	60
4	Education	60
5	Development of Surface water Bodies	25
6	Community Plantation	54
<b>Total in Rs. Lakhs</b>		<b>429</b>

- xxvi. Public Hearing have already been taken on 17.11.2020.
- xxvii. The drainage of the block is controlled by Chundru and Barki rivers flowing west to east and north to south respectively. The Barki River marks the eastern boundary of the property with a safe distance of about 100 mtrs.
- xxviii. Regular monitoring of ambient air quality is being carried out on fortnightly basis. The documented report is submitted to JSPCB & MOEF&C with six monthly compliance report. In general, the results of ambient air quality monitoring data were found within prescribed limits except few aberrations which can be attributed to the specific local conditions during the day of sampling.
- xxix. The details of court cases pending against the project are as given below:

<b>Court Name</b>	<b>Bench</b>	<b>Case Category</b>	<b>Present Status</b>
NGT	Eastern Bench	Appeal No. 6	Next hearing is scheduled on 03.01.2024
High Court	High Court of Jharkhand	WP(Civil) No. 1987	Pending

xxx. The project does not involve violation of the EIA Notification, 2006 and amendment issued there under. No excess production of coal from the sanctioned capacity has been realized since grant of Environment Clearance.

## **V. BENEFITS OF THE PROJECT**

- xxxi. The project involves approximately 400 project affected families. R&R of the PAPs will be done as per CIL R&R policy and RFTCLAAR Act.
- xxxii. Total cost of the project is Rs. 5136.15 Crores. Cost of production is Rs. 1205.82/Tonne. The fund for the CSR is allocated based on 2% of the average net profit of the Company for the three immediately preceding financial years. Environment Management cost is Rs. 79.09 Crores (Capital) & Rs. 2.1991 Crores (Revenue)
- xxxiii. Consent to operate (CTO) was obtained from the State Pollution Control Board on 30.06.2023 and is valid till 31.12.2024.
- xxxiv. Past Production details comparison with existing EC is shown below

<b>S. No.</b>	<b>Year</b>	<b>Coal Production (in MTPA)</b>	<b>EC Capacity (in MTPA)</b>
1	2013-14	-	12.00
2	2014-15	2.55	12.00
3	2015-16	4.79	12.00
4	2016-17	6.23	12.00
5	2017-18	6.49	12.00
6	2018-19	10.20	12.00
7	2019-20	12.79	14.40
8	2020-21	14.39	14.40
9	2021-22	16.59	20.16
10	2022-23	18	20.16

## **VI. CONTROL OF POLLUTION: (A) AIR & (B) WATER**

- xxxv. Environmental Baseline data was generated in the Pre-monsoon season from 03.10.2022 to 30.12.2022. The result indicates that the maximum and minimum values of PM10 are in the range of 87 µg/m<sup>3</sup> to 65 µg/m<sup>3</sup>, whereas the PM2.5 are in the range of 53 µg/m<sup>3</sup> to 28 µg/m<sup>3</sup> in buffer zone. The result indicates that the maximum and minimum values of PM10 are in the range of 198 µg/m<sup>3</sup> to 175 µg/m<sup>3</sup> in core zone. The SO<sub>2</sub> concentrations within the study area are in the range of 34.2 µg/m<sup>3</sup> to 25.1 µg/m<sup>3</sup> and the NO<sub>x</sub> are in the range of 39.1 µg/m<sup>3</sup> to 6.1 µg/m<sup>3</sup>. The observed pollutant levels were compared with CPCB National Ambient Air Quality Standards & Standards for Coal Mines issued by MoEF&CC, GSR-742 E dt. 25.09.2000 and found to be under limit.

xxxvi. Surface water Monitoring was done at 05 locations. The results indicate that the max. DO (mg/l) ranges from 5.2 to 5.8, TDS (mg/l) ranges from 211 to 263, TSS (mg/l) 29 to 48.

## VII. Historical background of the project since its inception with regard to grant of EC and production capacity

This project had started its operations in FY 2013-14 upon obtaining EC on 03.01.2006 for 12 MTPA within 1426.08 Ha. At present, this project is operating with a valid Environmental Clearance for 20.16 MTPA obtained vide letter no: J-11015/109/2003-IA-II (M) dt. 10.05.2021 and amended on 12.05.2023. Now the Project Proponent seeks 20% expansion under clause 7(ii) of EIA Notification, 2006 as per MoEFCC OM vide F.No: IA3-22/10/2022-IA-III [E177158] dt. 11.04.2022 for a capacity of 24.19 MTPA in an area of 619.87 Ha.

### 5.12.3 The EAC during deliberations noted the following:

- i. PP has requested 20% expansion in production capacity i.e. upto 24.19 MTPA on the ML area of 619.87 ha i.e. without change in mine lease area, as per OM dated 11.04.2022.
- ii. Earlier, Environment Clearance for production capacity of 20.16 MTPA in the ML area of 619.87 Ha was obtained on 10.05.2021 with Public Hearing and the said EC was amended on 12.05.2023.
- iii. Public hearing was conducted on 17.11.2020 for the project of 25.00 MTPA capacity in the ML area of 619.87 Ha.
- iv. 531.64 ha of forestland has been reported to be involved in the project. Approval under the Forest (Conservation) Act, 1980 for diversion of 531.64 Ha of forestland for non-forestry purposes has been obtained vide MoEF&CC letter No. F.No.8-48/2008-FC Dt.12.10.2010.
- v. The PP has submitted the compliance of conditions stipulated in the OM dated 11.04.2022:

S. No.	Condition as per OM	Compliance of condition
i	The project should have gone through the public hearing process, at least once, for its existing EC capacity on which expansion is being sought, except those category of projects which have been exempted as per para 7 III (i) of EIA Notification 2006 and its amendments.	Public Hearing was conducted on 17.11.2020 for 25 MTPA and 619.87 Ha. EC issued for 20.16 MTPA.
ii	There should not be change in Category of the project from 'B2' to 'B1' or 'A' due to proposed modernisation or expansion.	There is no change in the category of the project.
iii	There is no additional land acquisition or forest land diversion involved for the proposed expansion or there is no increase in lease area with regard to	No Change in the Project Area.

	mining vis-à-vis the area mentioned in the EC, based on which public hearing has been held earlier.	
iv	The proposed expansion shall not be more than 50% of production capacity as mentioned in the prior EC, issued on the basis of public hearing held and the same shall be allowed in minimum three phases.	20% expansion (24.19 MTPA) on prior EC (20.16 MTPA) that was issued on the basis of Public Hearing.
v	Predicted environmental quality parameters arising out of proposed expansion/modernization shall be within the prescribed norms and the same shall be maintained as per prescribed norms.	The predicated environmental quality of parameters are within prescribed norms.
vi	The proposed expansion should not result in reduction in the greenbelt area as stipulated in the earlier EC, or if the existing ratio of greenbelt is more than 33%, after expansion it should not reduce below 33%.	No change in the green belt area.
vii	The project proponent should have satisfactorily complied the conditions stipulated in the existing EC(s) and satisfactorily fulfilled all the commitments made during the earlier public hearing/consultation proceedings and also the commitments given while granting previous expansion, as may be applicable. This shall be duly recorded in the certified compliance report issued by the IRO/CPCB/SPCB, which should not be more than one year old at the time of submission of application.	As per the Certified Compliance Report (CCR) issued by the IRO, MoEFCC, no non-compliances were reported.
viii	Public Consultation shall be undertaken [if applicable as per table below] by obtaining response in writing, as per para 7 III (ii) (b) of EIA Notification 2006, except those category of projects which have been exempted as per para 7 III (i) of EIA Notification 2006 and its amendments.	Not applicable.
ix	Effluent monitoring including air quality monitoring systems as specified in the existing EC, if stipulated, should have been installed.	CAAQMS and PM10 Analyser are installed at project location for monitoring of air quality. Also, routine monitoring, in respect of ambient air quality, water quality (surface water, effluent water and ground water) are regularly being undertaken at project level.



**5.12.4** The EAC, after detailed deliberations observed that the instant proposal has been applied under Ministry's OM dated 11<sup>th</sup> April, 2022 for expansion in capacity upto 20% with exemption in public hearing and without change in mine lease area under clause 7 (ii) of EIA, Notification, 2006. Earlier Ministry had issued EC on 10.05.2021 for capacity of 20.16 MTPA in the ML area of 619.87 ha and public hearing was conducted on 17.11.2020.

The Committee reviewed the compliances of previous EC conditions as per the prerequisite requirements/applicable conditions of OM. It was observed that partial conditions have been mentioned in IRO report for which PP has committed to comply fully within fixed timeline. Some of the conditions are being complied and continued to be complied as the mining operation progress. While discussing the EMP measures adopted, the Committee observed values of ambient air quality in terms of PM10 near to the Ursu village and near to habitat areas and special measures are required for further mitigation. Accordingly, PP during processing conducted a week long monitoring and submitted the values of PM<sub>10</sub> & PM<sub>2.5</sub> which are noted to be within permissible limits. The issues raised during earlier public hearing was addressed by PP after EAC and remaining activities are committed to be expedited.

The EAC, after detailed deliberation on the submission/commitment of Project Proponent observed that PP has to strictly work as per timeline for compliance of EC conditions. Considering the commitment of PP and their seriousness to implement it, EAC **recommended** the proposal for grant of Environment Clearance upto 20% (Stage I) to Expansion of Amrapali Opencast Coal Mine from 20.16 MTPA to 24.19 MTPA (Peak) in an ML area of 619.87 ha of M/s Central Coalfields Limited located in District Chatra (Jharkhand), under OM dated 11.04.2022, under the provisions of Environment Impact Assessment Notification, 2006 and subsequent amendments/circulars thereto subject to the compliance of the following terms & conditions / specific conditions for environmental safeguards:

**Specific condition: -**

- i. PP to obtain the CTO for Opencast coalmine capacity of 24.19 MTPA (Stage-I 20% expansion) after grant of EC.
- ii. PP should complete the coal transportation from Amrapali railway siding through belt conveyor before 08.05.2023 and SPCB shall issue CTO accordingly.
- iii. PP should complete the ongoing construction work of pucca road from the project area to Shivpur Railway siding, along with installation of windscreen on both sides of this road to be completed before January, 2024.
- iv. PP shall setup environmental laboratory at project site and detail of its Environment Management Cell with their qualification to be submitted to IRO, MoEF&CC.
- v. PP shall install 3 nos. of CAAQMS and share online data to CPCB/SPCB along with install digital display board for displaying the air quality data at the Main gate of ML area.
- vi. PP shall construct dedicated concrete road of 3.3 km length for transporting Coal.
- vii. PP shall implement 2 nos. of Road Sweeping Machines on the Road through which coal will be transported by June, 2024.
- viii. PP shall setup 2 nos. of wheel washing system on the route of coal transportation for washing

- the wheels of loaded coal trucks and unloaded trucks by March, 2024.*
- ix. *PP shall install 10 nos. of sensor based Fog Canons on the route of coal transportation by February, 2024 so that the unnecessary use of water will be minimised.*
  - x. *PP shall take all necessary mitigation measures to reduce the air pollution load adjacent to the Honhe village by installing Fixed sprinkling system and by taking other necessary measures.*
  - xi. *PP should submit the status of implementing of Fog canon, Mist spray system Mobile tankers, and water sprinkling system.*
  - xii. *PP should construct 5 nos. of additional check dams at their respective sites to arrest erosion of the soil within the ML area.*
  - xiii. *PP shall complete the installation of roof top rain water harvesting system at the 11 identified locations.*
  - xiv. *PP should maintain 100m of safe distance from the mine as well as from the OB dump site all along 1500m length of Dudhmatiya stream.*
  - xv. *PP should regularly inspect and monitor the site of Toe Wall and Garland Drain for maintenance purposes.*
  - xvi. *PP should create the additional pond for fulfilling the water demands of local villagers.*
  - xvii. *PP shall obtain the separate CTO from SPCB for sewage treatment plant to be installed in the proposed Township.*
  - xviii. *PP to address the issues of local public with sufficient budgetary provisions as a part of public hearing. The maintenance of all public hearing activities shall be covered through recurring cost, which will be part of CSR budget.*
  - xix. *PP to address activities-wise budget of Rs. 3672.66 Lakhs in addition to Rs. 266 lakhs for EMP in time bound. The details of annual expenditure shall be part of report submitted to IRO, MoEF&CC. PP needs to include the audited figures against the expenditure and activities to be monitored through dedicated online monitoring mechanism. The maintenance of all activities shall be covered through recurring cost, which will be part of CSR budget.*
  - xx. *PP shall establish Environmental laboratory at project site by March 2024 and create Environmental Management Cell to monitor the issues related environmental degradation.*
  - xxi. *PP shall treat the mine water with analytical reports before use by the local villagers.*
  - xxii. *PP shall deploy the truck size of upto 40 tonnes (payload) for transportation of coal within the mine area through dedicated haul road till implementation of In-pit belt conveyor system. SPCB shall monitor the coal transportation by road or rail and CTO to be issued accordingly.*
  - xxiii. *No coal transportation shall be done through sensitive locations such as villages, hospitals, schools etc.*
  - xxiv. *PP shall deploy at least 20% of overall fleet size of dumpers/trucks as electrical or CNG/LNG based dumpers/trucks for transportation of coal/OB etc and deploy e-vehicles for workers/staff in/out of the mine.*
  - xxv. *PP shall conduct feasibility studies for assessment of voids for backfilling of ash and mixing of ash with overburden, taking up backfilling ash and OB mixing activities during operations as well as post closure of mines in line with the Fly Ash Utilization Notification, 2021.*
  - xxvi. *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.*

- xxvii. *PP shall conduct third party audit of compliance of EC condition at an interval six months and its report shall be submitted to IRO, MoEF&CC.*
- xxviii. *PP shall ensure the compliance of expenditure to be incurred for wildlife conservation plan submitted to the State Govt. and the details expenditure shall be submitted with six monthly EC compliance report to Ministry's IRO. Also, PP shall engage State Biodiversity Authority and local biodiversity committee for implementation of CSR activity for developing the local market.*
- xxix. *PP shall submit the video footage and photographs after completion of above EC conditions within 2 months to record the dumpsite, status of plantation, construction of boundary wall, construction of embankment, Installation of ETP and CAAQMS.*
- xxx. *PP shall create a "Public Grievance Redressal and Monitoring System" for resolving any issues related to the pollution of mines and complaint has to resolve as soon as possible not beyond 30 days. In this regard, adequate awareness to be spread among the public to address their grievance to company with simple and easy manner and for which company needs to devise the mechanism. The same shall be reported to IRO within 3 months. A logbook to be maintained by PP on "Public Grievance Redressal and Monitoring System."*
- xxxi. *PP shall raise green belt along borders with village to mitigate pollution and create additional natural wind breaks. Help of a forestry organization of MoEF&CC may be taken (e.g. ICFRE )*

### **Agenda No. 5.13**

**Pakri Barwadih Coal Mine Project (15 MTPA) of located in villages Barkagaon, Itij, Chiruadih, Urub, Chepa, Kalan, Nagri, Jugra, Sinduari, Churchu, Carahara, Sonbarsa, Pakri- Barwadih, Chepa-Khurd, Deora-Kalan, Lakura, Langatu, Keri, Dadikalan, Tehsil Barkagaon, District Hazaribagh, Jharkand – Amendment in Environmental Clearance dated 19.05.2009 - reg.**

**[Online Proposal number: IA/JH/CMIN/455759/2023; File No. J-11015/692/2007-IA. II (M)]**

**5.13.1** The proposal is for amendment in Environmental Clearance dated 19.05.2009 for Pakri Barwadih Coal Mine Project (15 MTPA) of M/s National Thermal Power Corporation Ltd. (NTPC) Ltd. located in villages Barkagaon, Itij, Chiruadih, Urub, Chepa, Kalan, Nagri, Jugra, Sinduari, Churchu, Carahara, Sonbarsa, Pakri- Barwadih, Chepa-Khurd, Deora-Kalan, Lakura, Langatu, Keri, Dadikalan, Tehsil Barkagaon, District Hazaribagh (Jharkand).

**5.13.2** The committee during deliberation noted the followings:

- i. Earlier, EC was granted to M/s National Thermal Power Corporation Ltd. (NTPC) Ltd. vide Ministry's letter no. J-11015/692/2007-IA. II (M) dated 19.05.2009 for 15 MTPA in mine lease area of 3319.42 ha.
- ii. In past, PP has obtained the following amendments after obtaining prior EC in 2009:

S. No.	Particulars (Amendment)	Date	Amendment in EC Condition
1.	1 <sup>st</sup>	29.06.2016	Extension of 2 years w.r.t. the construction of closed belt conveyor system for transportation of coal from CHP to Railway siding.
2.	2 <sup>nd</sup>	07.12.2017	Amendment in EC w.r.t. Specific EC condition no. (iii), (v), (vi), (ix) & (x).
3.	3 <sup>rd</sup>	14.08.2018	Another extension of timeline i.e. for 2 years i.e. upto 28 <sup>th</sup> June, 2020 permitting coal transportation from Pakri Barwadih Coal Mining Block to Banadag Railway Siding by road.
4.	4 <sup>th</sup>	10.11.2020	3 <sup>rd</sup> extension for 2 years i.e. upto 28 <sup>th</sup> June, 2022 as an interim arrangement for coal transportation by road and extended up to 27 <sup>th</sup> June, 2023 in view of MOEF&CC Notification S.O. 221(E) dated 18.01.2021 (as a relief to projects due to Covid situation).
5.	5 <sup>th</sup>	16.08.2023	4 <sup>th</sup> extension of EC i.e. up to October, 2023 to use Service road/State Highways for transportation of coal to Banadag railway siding by adopting all mitigative measure to control dust pollution.
6.	6 <sup>th</sup>	09.11.2023	5 <sup>th</sup> Extension in Amendment in EC for Transportation of coal by road upto 31.01.2024.

- iii. From the above table, it is marked that PP obtained six amendments till date and out of these, 5 are related to extension of time line for construction of belt conveyor system.
- iv. Vide order dated 06.01.2021, in OA No. 61/2019/EZ, the National Green Tribunal, Principal Bench, New Delhi had directed the Appellant to construct the Conveyor belt facilities at its Pakri Barwadih Coal Mining Project, Hazaribagh, within three months.
- v. Being aggrieved by the same, the Applicant (NTPC) approached the Supreme Court and filed Civil Appeal No. 6249/2021. The Hon'ble Supreme Court, while dealing with the Appeal filed by the Applicant, initially, vide its order dated 22.10.2021 granted stay on operation of the order passed by the Hon'ble National Green Tribunal regarding fixation of time limit for construction of Conveyor System.
- vi. The aforesaid stay on the NGT Order dated 06.01.2021 came to an end when the Hon'ble Supreme Court, vide its final order dated 08.08.2022, had fixed the timeline for completing the construction of the conveyor belt on or before October, 2023
- vii. Further, the Hon'ble Supreme Court vide judgment dated 20.10.2023, in the matter of National Thermal Power Corporation (NTPC) & Tripurari Singh in Miscellaneous Application No. 1824/2023 in Civil Appeal No. 6249 of 2021 has extended the timeline for completing the construction of the conveyor belt (mechanized system) from 31.10.2023 to 31.01.2024
- viii. In view of the aforesaid direction, MoE&CC granted the EC amendment dated 09.11.2023 and allowed the road transportation of coal till 31<sup>st</sup> January 2024.

- ix. Now again, Project Proponent (M/s NTPC) has requested to extend the permission for transportation of Coal by service road/State Highways till 31.12.2024 from Pakri Barwadhi CMP to Banadag Railway siding in view of its committed time line before Hon'ble Court.
- x. Since entire matter involves the timely completion of belt conveyor system as per the commitment of PP. Therefore, PP was asked to furnish the progress of works. Following is the details of progress submitted by PP w.r.t. rapid loading system and silo loading in different timelines of the year 2023.

**Progress of the construction of Rapid Loading System, Banadag Railway Siding**

Sr. No.	Description	Progress as on 16.06.2023	Progress as on 27.10.2023	Progress as on 07.12.2023
1	Civil Construction	76%	82%	87%
2	Structural Supply	57%	74%	88%
3	Electrical and Mechanical supply	57%	76%	87%
4	Structural Erection	22%	39%	48%

- xi. Expected completion Schedule as follows:
- Civil works: 31.01.2024
  - Structural work: 21.03.2024
  - Mechanical works: 27.07.2024
  - Electrical works: 06.08.2024
  - Final Commissioning: 31.12.2024
- xii. Projected Civil work progress as mentioned below:

RCC work progress in Cum				Target date	Pending Jobs
Description	Scope	Executed	%age		
GROUND BUNKER	5500	4594	83.53	15.03.2024	Major work: Ferrosite Lining work, LSP room-2 nos, Part2 RCC, Flooring, Stringer post casting, cable trench, Insert plate in part1, staircase (02 no.s). Minor work: Paving, Drain, approach road etc.
TP 10 to TP 14	2660	2447	91.99	10.02.2024	Major work: Floor slab (03 nos), Brick work, Transformer yard. Minor work: Paving and drain, fencing and finishing works.
TP14 to RLS1	1190	1137	95.55	25.05.2024	Major work: Floor slab (06 nos), Brick work, Transformer yard

					Minor work: Paving and drain, fencing and finishing works
TP 15 to RLS2	673	590	87.66	20.06.2024	Major work: Floor slab (05 nos), Brick work, Transformer yard, Retaining wall Minor work: Paving and drain, fencing and finishing works
Total	10023	8768	87.46		Major work: Important for commissioning Minor work: Not related to commissioning

xiii. Timeline for completion of mechanical progress work as mentioned below:

Building	% completion	Remarks	Target date
10CD	20%	Work under progress	20.03.2024
12AB	0%	work to be started after structural front availability	31.07.2024
13AB	5%	Technological/Equipment erection work u/p.	20.07.2024
13CD	5%	Technological/Equipment erection work u/p.	20.07.2024
14AB	2%	Technological /Equipment erection work u/p.	20.08.2024
15 AB	15%	Technological/Equipment erection work u/p.	20.09.2024
16A	0%	work to be started after structural front availability	10.10.2024
Conv 17	0%	work to be started after structural front availability	20.10.2024
16B	0%	work to be started after structural front availability	20.10.2024
Overall	6%	1.5 /26.2 Cr work done.	

**5.13.3** The EAC, after deliberations observed that the instant application is for extension of timeline as amendment in EC condition to implement the time oriented condition of conveyor belt and silo loading facility for further extension in light of Hon'ble Supreme Court order in the matter of NTPC's Miscellaneous Application vide MA-001824/2023 dated 18.08.2023.

The Committee observed that while seeking extension of timeline under the current application dated 16.12.2023, PP has submitted current status of implementation on said condition and the committee observed an improvement in progress of works with respect to earlier two appraisals done by EAC. The

Committee noted the physical progress has increased from 76% to 87% for civil construction, 57% to 88% for structural supply, 57% to 87% w.r.t. electrical & mechanical works while comparing these progress from 16.06.2023 to 07.12.2023. It shows that momentum of works has taken place. It has also been noted that PP is committed to implement the entire works of belt conveyor system and silo loading by December 2024. However, in order to keep the regular monitoring on pace of implementation, the Committee emphasised to submit the monthly progress report of conveyor belt and silo loading system to IRO, MoEF&CC for remaining period.

Certified compliance report by Ministry's Regional Office-Ranchi of EC conditions and conditions laid down during amendment in EC was also appraised. It was desired that full compliance as per stipulated conditions shall be done before July, 2024. It was opined that though PP has requested for extension in timeline till December, 2024 but however it was considered opinion to review the progress of works after six months and meanwhile EAC agreed to recommend the extension of the timeline upto July 2024 subject to further direction of Supreme Court in the matter since Hon'ble Court granted the timeline to implement the belt conveyor and silo loading by 31st January 2024.

Further, the Committee recommended to extend the timeline till 31.07.2024 subject to the submission of Action taken report on progress of works before 31st July, 2023 and compliance to EC conditions. Subsequently, the EAC will review the proposal in entirety in month of June/July 2024 and now at this stage, the Committee proposed the condition of Environmental clearance condition no. 2A(ix), which shall be read as:

“The coal shall be transported through closed belt conveyor system of a length of 13 km to Banadag railway station till 31<sup>st</sup> July, 2024 to use Service road for transportation of coal to Banadag railway siding by adopting all mitigative measure to control dust pollution.” subject to further directions of Honble Supreme Court in the matter and Certified Compliance Report (CCR) from the IRO for the Amendment of Environmental Clearance (EC) and their respective Action taken report by June, 2024.

Based on the submission of the project proponent, EAC **recommended** the proposal for extension of aforesaid amended EC up to 31<sup>st</sup> July, 2024 for Pakri Barwadih Coal Mine Project (15 MTPA) of M/s National Thermal Power Corporation Ltd. (NTPC) Ltd. located in villages Barkagaon, Itij, Chiruadih, Urub, Chepa, Kalan, Nagri, Jugra, Sinduari, Churchu, Carahara, Sonbarsa, Pakri- Barwadih, Chepa-Khurd, DeoraKalan, Lakura, Langatu, Keri, Dadikalan, Tehsil Barkagaon, District Hazaribagh, Jharkhand, subject to the order of Hon'ble Supreme Court wrt Misc. Appeal (MA-001824 dated 18.08.2023) in the matter of Civil Appeal no 6249/2022 (NTPC vs Tripurari Singh Ors) filed by PP and also under the provisions of Environment Impact Assessment Notification, 2006 and subsequent amendments/circulars thereto subject to the compliance of the following terms & conditions / specific conditions: -

**Specific conditions: -**

- i. PP needs to submit the monthly progress report of conveyor belt and silo loading system to IRO, MoEF&CC.

- ii. *PP needs to implement the conditions laid down in amended EC letter dated 09.11.2023 wherein additional safeguards with regard to road transportation have been provided.*
- iii. *PP needs to fully comply with EC conditions and submit the Certified Compliance Report (CCR) from IRO for the Amendment of Environmental Clearance (EC) and their respective Action taken report.*
- iv. *PP shall collect the One-month baseline data on environmental quality – air (PM10, PM2.5, SOx, NOx and heavy metals such as Hg, Pb, Cr, AS, etc), noise, water (surface and groundwater), soil at different location of the existing coal transportation route.*
- v. *The plantations done by the PP need to be adequately densified and audited by a third party preferably a forestry institution of MoEFCC (eg ICFRE) to assess their efficacy. Densification of existing plantations shall also be done during the monsoon of 2024.*
- vi. *PP needs to submit the Compliance of above conditions in order to address the matter regarding court cases pending before the Hon 'ble Supreme Court for National Thermal Power Corporation (NTPC) v. Tripurari Singh in Miscellaneous Application No. 1824/2023 in Civil Appeal No. 6249 of 2021.*
- vii. *The matter shall be reviewed again by EAC in June/July 2024 for compliance of above with updated status of construction of belt conveyor system.*



## **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 PM<sub>10</sub>, PM<sub>2.5</sub>, SO<sub>2</sub> and NO<sub>x</sub>. 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 25<sup>th</sup> September, 2000 and as amended from time to time by the Central Pollution Control Board. Data on ambient air quality and heavy metals such as Hg, As, Ni, Cd, Cr and other monitoring data shall be regularly reported to the Ministry/Regional Office and to the CPCB/SPCB.

- (iii) Transportation of coal, to the extent permitted by road, shall be carried out by covered trucks/conveyors. Effective control measures such as regular water/mist sprinkling/rain gun etc shall be carried out in critical areas prone to air pollution (with higher values of PM<sub>10</sub>/PM<sub>2.5</sub>) 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 airborne 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 25<sup>th</sup> 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 27<sup>th</sup> May, 2009 issued by Ministry of Environment, Forest and Climate Change shall also be referred in this regard for its compliance.
  - (iii) Regular monitoring of ground water level and quality shall be carried out in and around the mine lease area by establishing a network of existing wells and constructing new piezometers during the mining operations. The monitoring of ground water levels shall be carried out four times a year i.e. pre-monsoon, monsoon, post-monsoon and winter. The ground water quality shall be monitored once a year, and the data thus collected shall be sent regularly to MOEFCC/RO.
  - (iv) Monitoring of water quality upstream and downstream of water bodies shall be carried out once in six months and record of monitoring data shall be maintained and submitted to the Ministry of Environment, Forest and Climate Change/Regional Office.
  - (v) Ground water, excluding mine water, shall not be used for mining operations. Rainwater

harvesting shall be implemented for conservation and augmentation of ground water resources.

- (vi) Catch and/or garland drains and siltation ponds in adequate numbers and appropriate size shall be constructed around the mine working, coal heaps & OB dumps to prevent run off of water and flow of sediments directly into the river and water bodies. Further, dump material shall be properly consolidated/compacted and accumulation of water over dumps shall be avoided by providing adequate channels for flow of silt into the drains. The drains/ ponds so constructed shall be regularly de-silted particularly before onset of monsoon and maintained properly. Sump capacity should provide adequate retention period to allow proper settling of silt material. The water so collected in the sump shall be utilised for dust suppression and green belt development and other industrial use. Dimension of the retaining wall constructed, if any, at the toe of the OB dumps within the mine to check run-off and siltation should be based on the rainfall data. The plantation of native species to be made between toe of the dump and adjacent field/habitation/water bodies.
  - (vii) Adequate groundwater recharge measures shall be taken up for augmentation of ground water. The project authorities shall meet water requirement of nearby village(s) after due treatment conforming to the specific requirement (standards).
  - (viii) Industrial waste water generated from CHP, workshop and other waste water, shall be properly collected and treated so as to conform to the standards prescribed under the standards prescribed under Water Act 1974 and Environment (Protection) Act, 1986 and the Rules made there under, and as amended from time to time. Adequate ETP /STP needs to be provided.
  - (ix) The water pumped out from the mine, after siltation, shall be utilized for industrial purposive. watering the mine area, roads, green belt development etc. The drains shall be regularly desilted particularly after monsoon and maintained properly.
  - (x) The surface drainage plan including surface water conservation plan for the area of influence affected by the said mining operations, considering the presence of river/rivulet/pond/lake etc, shall be prepared and implemented by the project proponent. The surface drainage plan and/or any diversion of natural water courses shall be as per the approved Mining Plan/EIA/EMP report and with due approval of the concerned State/GoI Authority. The construction of embankment to prevent any danger against inrush of surface water into the mine should be as per the approved Mining Plan and as per the permission of DGMS or any other authority as prescribed by the law.
  - (xi) The project proponent shall take all precautionary measures to ensure riverine/riparian ecosystem in and around the coal mine up to a distance of 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 27<sup>th</sup> 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 3<sup>rd</sup> November, 2009 as amended from time to time. Efforts shall be made to utilize gypsum generated from Flue Gas Desulfurization (FGD), if any, along with fly ash for external dump of overburden, backfilling of mines. Compliance report shall be

submitted to Regional Office of MoEF&CC, CPCB and SPCB.

- (v) Further, it may be ensured that as per the time schedule specified in mine closure plan it should remain live till the point of utilization. The topsoil shall temporarily be stored at earmarked site(s) only and shall not be kept unutilized. The top soil shall be used for land reclamation and plantation purposes. Active OB dumps shall be stabilised with native grass species to prevent erosion and surface run off. The other overburden dumps shall be vegetated with native flora species. The excavated area shall be backfilled and afforested in line with the approved Mine Closure Plan. Monitoring and management of rehabilitated areas shall continue until the vegetation becomes self-sustaining. Compliance status shall be submitted to the Ministry of Environment, Forest and Climate Change/ Regional Office.
- (vi) The project proponent shall make necessary alternative arrangements, if grazing land is involved in core zone, in consultation with the State government to provide alternate areas for livestock grazing, if any. In this context, the project proponent shall implement the directions of Hon'ble Supreme Court with regard to acquiring grazing land.
- (g) Green Belt**
  - (i) The project proponent shall take all precautionary measures during mining operation for conservation and protection of endangered/endemic flora/fauna, if any, spotted/reported in the study area. The Action plan in this regard, if any, shall be prepared and implemented in consultation with the State Forest and Wildlife Department.
  - (ii) Greenbelt consisting of 3-tier plantation of width not less than 7.5 m shall be developed all along the mine lease area as soon as possible. The green belt comprising a mix of native species (endemic species should be given priority) shall be developed all along the major approach/ coal transportation roads.
- (h) Public hearing and Human health issues**
  - (i) Adequate illumination shall be ensured in all mine locations (as per DGMS standards) and monitored weekly. The report on the same shall be submitted to this ministry & its RO on six-monthly basis.
  - (ii) The project proponent shall undertake occupational health survey for initial and periodical medical examination of the personnel engaged in the project and maintain records accordingly as per the provisions of the Mines Rules, 1955 and DGMS circulars. Besides regular periodic health check-up, 20% of the personnel identified from workforce engaged in active mining operations shall be subjected to health check-up for occupational diseases and hearing impairment, if any, as amended time to time.
  - (iii) Personnel (including outsourced employees) working in core zone shall wear protective respiratory devices and shall also be provided with adequate training and information on safety and health aspects.
  - (iv) Implementation of the action plan on the issues raised during the public hearing shall be ensured. The project proponent shall undertake all the tasks/measures as per the action plan submitted with budgetary provisions during the public hearing. Land oustees shall be compensated as per the norms laid down in the R&R policy of the company/State Government/Central Government, as applicable.

- (v) The project proponent shall follow the mitigation measures provided in this Ministry's OMNo.Z-11013/5712014-IA.II (M) dated 29<sup>th</sup> 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 1<sup>st</sup> 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 shareholder's/stake holders.
- (iii) A separate Environmental Cell both at the project and company head quarter level, with qualified personnel shall be set up under the control of senior Executive, who will directly to the head of the organization.
- (iv) Action plan for implementing EMP and environmental conditions along with responsibility matrix of the company shall be prepared and shall be duly approved by competent authority. The year wise funds earmarked for environmental protection measures shall be kept in separate account and not to be diverted for any other purpose. Year wise progress of implementation of action plan shall be reported to the Ministry/Regional Office along with the Six Monthly Compliance Report.
- (v) Self-environmental audit shall be conducted annually. Every three years third party environmental audit shall be carried out.
- (j) Miscellaneous**
- (i) The project proponent shall make public the environmental clearance granted for their project along with the environmental conditions and safeguards at their cost by prominently advertising it at least in two local newspapers of the District or State, of which one shall be in the vernacular language within seven days and in addition this shall also be displayed in the project proponent's website permanently.
- (ii) The copies of the environmental clearance shall be submitted by the project proponents to the Heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt.
- (iii) The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and update the same on half-yearly basis.
- (iv) The project proponent shall monitor the criteria pollutants level namely; PM<sub>10</sub>, SO<sub>2</sub>, NO<sub>x</sub> (ambient levels) or critical sectoral parameters, indicated for the projects and display the

same at a convenient location for disclosure to the public and put on the website of the company.

- (v) The project proponent shall submit six-monthly reports on the status of the compliance of the stipulated environmental conditions on the website of the ministry of Environment, Forest and Climate Change at environment clearance portal.
- (vi) The project proponent shall follow the mitigation measures provided in this Ministry's OM No. Z-11013/5712014-IA. II (M) dated 29<sup>th</sup> October, 2014, titled 'Impact of mining activities on habitations-issues related to the mining projects wherein habitations and villages are the part of mine lease areas or habitations and villages are surrounded by the mine lease area'.
- (vii) The project proponent shall submit the environmental statement for each financial year in Form-V to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently and put on the website of the company.
- (viii) The project authorities shall inform to the Regional Office of the MOEFCC regarding commencement of mining operations.
- (ix) The project authorities must strictly adhere to the stipulations made by the State Pollution Control Board and the State Government.
- (x) The project proponent shall abide by all the commitments and recommendations made in the EIA/EMP report, commitment made during Public Hearing and also that during their presentation to the Expert Appraisal Committee.
- (xi) No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment, Forests and Climate Change.
- (xii) Concealing factual data or submission of false/fabricated data may result in revocation of this environmental clearance and attract action under the provisions of Environment (Protection) Act, 1986.
- (xiii) The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.
- (xiv) The Ministry reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner shall implement these conditions.
- (xv) The Regional Office of this Ministry shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data / information/monitoring reports.
- (xvi) The above conditions shall be enforced, inter-alia under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, Hazardous and Other Wastes (Management and Trans-boundary Movement) Rules, 2016 and the Public Liability Insurance Act, 1991 along with their amendments and Rules and any other orders passed by the Hon'ble Supreme Court of India / High Courts and any other Court of Law relating to the subject matter.

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## **Annexure-II**

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

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

#### **I. Statutory compliance:**

- (i) The Environmental clearance shall be subject to orders of Hon'ble Supreme Court of India, Hon'ble High Courts, NGT and any other Court of Law, from time to time, and as applicable to the project
- (ii) The project proponent shall obtain forest clearance under the provisions of Forest (Conservation) Act, 1986, in case of the diversion of forest land for non-forest purpose involved in the project.
- (iii) The project proponent shall obtain clearance from the National Board for Wildlife, if applicable.
- (iv) The project proponent shall prepare a Site-Specific Conservation Plan / Wildlife Management Plan and approved by the Chief Wildlife Warden. The recommendations of the approved Site-Specific Conservation Plan / Wildlife Management Plan shall be implemented in consultation with the State Forest Department. The implementation report shall be furnished along with the six-monthly compliance report. (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, SO<sub>2</sub> and NO<sub>x</sub>. Location of the stations shall be decided based on the meteorological data, topographical features and environmentally and ecologically sensitive receptors in consultation with the State Pollution Control Board. Monitoring of heavy metals such as Hg, As, Ni, Cd, Cr, etc. to be carried out at least once in six months. Online ambient air quality monitoring station/stations may also be installed in addition to the regular air monitoring stations as per the requirement and/or in consultation with the SPCB
- ii. The Ambient Air Quality monitoring in the core zone shall be carried out to ensure the Coal Industry Standards notified vide GSR 742 (E) dated 25.9.2000 and as amended from time to



time by the Central Pollution Control Board. Data on ambient air quality and heavy metals such as Hg, As, Ni, Cd, Cr and other monitoring data shall be regularly reported to the Ministry/Regional Office and to the CPCB/SPCB.

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

### **III. Water quality monitoring and preservation**

- i. The effluent discharge (mine waste water, workshop effluent) shall be monitored in terms of the parameters notified under the Water Act, 1974 Coal Industry Standards vide GSR 742 (E) dated 25.9.2000 and as amended from time to time by the Central Pollution Control Board.
- ii. The monitoring data shall be uploaded on the company's website and displayed at the project site at a suitable location. The circular No. J-20012/1/2006-1A.11 (M) dated 27.05.2009 issued by Ministry of Environment, Forest and Climate Change shall also be referred in this regard for its compliance.
- iii. Regular monitoring of ground water level and quality shall be carried out in and around the mine lease area by establishing a network of existing wells and constructing new piezometers during the mining operations. The monitoring of ground water levels shall be carried out four times a year i.e. pre-monsoon, monsoon, post-monsoon and winter. The ground water quality shall be monitored once a year, and the data thus collected shall be sent regularly to MOEFCC/RO.
- iv. Monitoring of water quality upstream and downstream of water bodies shall be carried out once in six months and record of monitoring data shall be maintained and submitted to the Ministry of Environment, Forest and Climate Change/Regional Office.

- v. Ground water, excluding mine water, shall not be used for mining operations. Rainwater harvesting shall be implemented for conservation and augmentation of ground water resources.
- vi. The project proponent shall not alter major water channels around the site. Appropriate embankment shall be provided along the side of the river/nallah flowing near or adjacent to the mine. The embankment constructed along the river/nallah boundary shall be of suitable dimensions and critical patches shall be strengthened by stone pitching on the river front side, stabilized with plantation so as to withstand the peak water pressure preventing any chance of mine inundation.
- vii. Garland drains (of suitable size, gradient and length) around the critical areas i.e. mine shaft and low lying areas, shall be designed keeping at least 50% safety margin over and above the peak sudden rainfall and maximum discharge in the area adjoining the mine sites. The sump capacity shall also provide adequate retention period to allow proper settling of silt material of the surface runoff
- viii. The water pumped out from the mine, after siltation, shall be utilized for industrial purposive. watering the mine area, roads, green belt development etc. The drains shall be regularly desilted particularly after monsoon and maintained properly.
- ix. Industrial waste water from coal handling plant and mine water shall be properly collected and treated so as to conform to the standards prescribed under the Environment (Protection) Act, 1986 and the Rules made thereunder, and as amended from time to time. Oil and grease trap shall be installed before discharge of workshop effluent. Sewage treatment plant of adequate capacity shall be installed for treatment of domestic waste water.
- x. Adequate groundwater recharge measures shall be taken up for augmentation of ground water. The project authorities shall meet water requirement of nearby village(s) in case the village wells go dry due to dewatering of mine.
- xi. The surface drainage plan including surface water conservation plan for the area of influence affected by the said mining operations shall be prepared, considering the presence of any river/rivulet/pond/lake etc., with impact of mining activities on it, and implemented by the project proponent. The surface drainage plan and/or any diversion of natural water courses shall be as per the provisions of the approved Mining Plan/ EIA-EMP submitted to this Ministry and the same should be done with due approval of the concerned State/GoI Authority. The construction of embankment to prevent any danger against inrush of surface water into the mine should be as per the approved mining plan and as per the permission of DGMS.
- xii. The project proponent shall take all precautionary measures to ensure reverian/ riparian ecosystem in and around the coal mine upto a distance of 5 km. A reverian /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 3<sup>rd</sup> 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 29<sup>th</sup> 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 1<sup>st</sup> 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 shareholder’s / stake holders. The copy of the board resolution in this regard shall be submitted to the MoEF&CC as a part of six-monthly report.
- iii. A separate Environmental Cell both at the project and company head quarter level, with qualified personnel shall be set up under the control of senior Executive, who will directly to the head of the organization.
- iv. Action plan for implementing EMP and environmental conditions along with responsibility matrix of the company shall be prepared and shall be duly approved by competent authority. The year wise funds earmarked for environmental protection measures shall be kept in separate account and not to be diverted for any other purpose. Year wise progress of implementation of action plan shall be reported to the Ministry/Regional Office along with the Six Monthly Compliance Report.
- v. Self-environmental audit shall be conducted annually. Every three years third party environmental audit shall be carried out.

#### **X. Miscellaneous**

- i. The project proponent shall make public the environmental clearance granted for their project along with the environmental conditions and safeguards at their cost by prominently advertising it at least in two local newspapers of the District or State, of which one shall be in the vernacular language within seven days and in addition this shall also be displayed in the project proponent’s website permanently.
- ii. The copies of the environmental clearance shall be submitted by the project proponents to the Heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt.
- iii. The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and update the same on half-yearly basis.
- iv. The project proponent shall submit six-monthly reports on the status of the compliance of the stipulated environmental conditions on the website of the ministry of Environment, Forest and Climate Change at environment clearance portal.
- v. The project proponent shall submit the environmental statement for each financial year in

Form-V to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently and put on the website of the company.

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

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## **Annexure-III**

### **Standard EC Conditions for Coal Washery Project**

#### **I. Statutory compliance:**

- (i) The project proponent shall obtain forest clearance under the provisions of Forest (Conservation) Act, 1986, in case of the diversion of forest land for non-forest purpose involved in the project.
- (ii) The project proponent shall obtain clearance from the National Board for Wildlife, if applicable.
- (iii) The project proponent shall prepare a Site-Specific Conservation Plan / Wildlife Management Plan and approved by the Chief Wildlife Warden. Therecommendations of the approved Site-Specific Conservation Plan / WildlifeManagement 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 CentralGround 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, SO<sub>2</sub> and NO<sub>x</sub>. Location of the stations shall be decided based on the meteorological data, topographical features and environmentally and ecologically sensitive receptors in consultation with the State Pollution Control Board. Monitoring of heavy metals such as Hg, As, Ni, Cd, Cr, etc. carried out at least once in six months.
- ii. Continuous ambient air quality monitoring stations as prescribed in the statute be established in the core zone as well as in the buffer zone for monitoring of pollutants, namely PM<sub>10</sub>, PM<sub>2.5</sub>, SO<sub>2</sub> and NO<sub>x</sub>. 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 riverfront side stabilised with plantation so as to withstand the peak water pressure preventing any chance of inundation.

- v. Heavy metal content in raw coal and washed coal shall be analysed once in a year and records maintained thereof.
- vi. The rejects should preferably be utilized in FBC power plant or disposed off through sale for its gainful utilization. If the coal washery rejects are to be disposed off, it should be done in a safe and sustainable manner with adequate compaction and post closure arrangement to avoid water pollution due to leachate from rejects and surface run off from reject dumping sites.
- vii. An Integrated Surface Water Management Plan for the washery area up to its buffer zone considering the presence of any river/rivulet/pond/lake etc. with impact of coal washing activities on it, shall be prepared, submitted to MoEFCC and implemented.
- viii. Waste Water shall be effectively treated and recycled completely either for washery operations or maintenance of green belt around the plant.
- ix. Rainwater harvesting in the washery premises shall be implemented for conservation and augmentation of ground water resources in consultation with Central Ground Water Board.
- x. No ground water shall be used for coal washing unless otherwise permitted in writing by competent authority (CGWA) or MoEFCC. The make-up water requirement of washery should not exceed 1.5 m<sup>3</sup>/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. 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.
- xii. 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/transferpoints 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. 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.
- ii. 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.
- iii. 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.
- iv. The project proponent shall follow the mitigation measures provided in this Ministry's OM No. Z-11013/5712014-IA.II (M) dated 29<sup>th</sup> 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. Miscellaneous**

- i. The project proponent shall make public the environmental clearance granted for their project along with the environmental conditions and safeguards at their cost by prominently

- advertising it at least in two local n
- ii. 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.
  - iii. The copies of the environmental clearance shall be submitted by the project proponents to the Heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt.
  - iv. The project proponent shall upload the status of compliance of the stipulated environmental clearance conditions, including results of monitored data on their website and update the same on half-yearly basis.
  - v. The project proponent shall monitor the criteria pollutants level namely; PM<sub>10</sub>, SO<sub>2</sub>, NO<sub>x</sub> (ambient levels) or critical sectoral parameters, indicated for the projects and display the same at a convenient location for disclosure to the public and put on the website of the company.
  - vi. The project proponent shall submit six-monthly reports on the status of the compliance of the stipulated environmental conditions on the website of the ministry of Environment, Forest and Climate Change at environment clearance portal.
  - vii. The project proponent shall submit the environmental statement for each financial year in Form-V to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently and put on the website of the company.
  - viii. The project authorities shall inform to the Regional Office of the MOEFCC regarding commencement of mining operations.
  - ix. The project authorities must strictly adhere to the stipulations made by the State Pollution Control Board and the State Government.
  - x. The project proponent shall abide by all the commitments and recommendations made in the EIA/EMP report, commitment made during Public Hearing and also that during their presentation to the Expert Appraisal Committee.
  - xi. No change in coal beneficiation process and scope of work shall be made without obtaining prior approval of the Ministry of Environment, Forests and Climate Change (MoEFCC) with such conditions mentioned therein. No change in the maximum quantum of raw material feed per annum against the approved washery capacity shall be made
  - xii. Concealing factual data or submission of false/fabricated data may result in revocation of this environmental clearance and attract action under the provisions of Environment (Protection) Act, 1986.
  - xiii. The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.
  - xiv. The Ministry reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner shall implement these conditions.
  - xv. The Regional Office of this Ministry shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data / information/monitoring reports.

- xvi. The above conditions shall be enforced, inter-alia under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 and the Public Liability Insurance Act, 1991 along with their amendments and Rules and any other orders passed by the Hon'ble Supreme Court of India / High Courts and any other Court of Law relating to the subject matter.
- xvii. Any appeal against this EC shall lie with the National Green Tribunal, if preferred, within period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.

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## **ANNEXURE-IV**

### **Generic ToR for coal washery**

- i. Siting of washery is critical considering 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 conveyer belt. If transport by rail

is not feasible because of the topography of the area, the option for transport by road be examined in detail and its impacts along with the mitigation measures should be clearly brought out in EIA/EMP report.

- xii. Details of various facilities proposed to be provided in terms of parking, rest areas, canteen etc. to the personnel involved in mineral transportation, workshop and effluents/pollution load from these activities should be provided.
- xiii. Impacts of CHP, if any, on air and water quality should also be spelt out along with Action Plan.
- xiv. O.M. No. J-II0I3/25/2014-IA.I dated 11<sup>th</sup> August, 2014 to be followed with regard to CSR activities.
- xv. Details of Public Hearing, Notice(s) issued in newspapers, proceedings/minutes of Public Hearing, points raised by the general public and response/commitments made by the proponent along with the Action Plan and budgetary provisions be submitted in tabular form. If the Public Hearing is in the regional language, an authenticated English translation of the same should be provided. Status of any litigations/ court cases filed/pending, if any, against the project should be mentioned in EIA.
- xvi. Analysis of samples indicating the following be submitted: Characteristics of coal prior to washing (this includes grade of coal, other characteristics of ash, S and heavy levels of metals such as Hg, As, Pb, Cr etc). Characteristics and quantum of coal after washing. Characteristics and quantum of coal rejects.
- xvii. Details of management/disposal/use of coal rejects should be provided. The rejects should be used in TPP located close to the washery as far as possible. If TPP is within a reasonable distance (10 km), transportation should be by conveyor belt. If it is far away, the transportation should be by rail as far as possible.
- xviii. Copies of MOU/Agreement with linkages (for stand-alone washery) for the capacity for which EC is being sought should be submitted.
- xix. Corporate Environment Responsibility:
  - a) The Company must have a well laid down Environment Policy approved by the Board of Directors.
  - b) The Environment Policy must prescribe for standard operating process/procedures to bring into focus any infringements/ deviation/ violation of the environmental or forest norms/ conditions.
  - c) The hierarchical system or Administrative Order of the company to deal with environmental issues and for ensuring compliance with the environmental clearance conditions must be furnished.
  - d) To have proper checks and balances, the company should have a well laid down system of reporting of non-compliances/violations of environmental norms to the Board of Directors of the company and/or shareholders or stakeholders at large.
- xx. A detailed action Plan for Corporate Social Responsibility for the project affected people and people living in and around the project area should be provided.
- xxi. Permission of drawl of water shall be pre-requisite for consideration of EC.
- xxii. Wastewater /effluent should conform to the effluent standards as prescribed under

Environment (Protection) Act, 1986

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

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**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 nullah/canal/river, the proposed route of



diversion

/modification of drainage and their realignment, construction of embankment etc. should also be shown on the map as per the approval of Irrigation and flood control Department of the concerned state.

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

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

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

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

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

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

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

(xiv) One-season (other than monsoon) primary baseline data on environmental quality - air (PM<sub>10</sub>, PM<sub>2.5</sub>, SO<sub>x</sub>, NO<sub>x</sub> 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 seam 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 <sup>st</sup> Year)	5 <sup>th</sup> Year	10 <sup>th</sup> Year	20 <sup>th</sup> Year	24 <sup>th</sup> 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
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1.	1 <sup>st</sup> year										
2.	3 <sup>rd</sup> year										
3.	5 <sup>th</sup> year										
4.	10 <sup>th</sup> year										
5.	15 <sup>th</sup> year										
6.	20 <sup>th</sup> year										
7.	25 <sup>th</sup> year										
8.	30 <sup>th</sup> year										
9.	34 <sup>th</sup> year (end of mine life)										
10.	34-37 <sup>th</sup> Year (Post-mining)										

\* As a representative example

(xxxii) 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					

(xxxiii) Flow chart of water balance should be provided. Treatment of effluents from

- workshop, township, domestic wastewater, mine water discharge, etc. should be provided. Details of STP in colony and ETP in mine should be given. Recycling of water to the max. possible extent should be done.
- (xxxiii) Occupational health issues. Baseline data on the health of the population in the impact zone and measures for occupational health and safety of the personnel and manpower in the mine should be given.
  - (xxxiv) Risk Assessment and Disaster Preparedness and Management Plan should be provided.
  - (xxxv) Integration of the Env. Management Plan with measures for minimizing use of natural resources - water, land, energy, etc. should be carried out.
  - (xxxvi) Cost of EMP (capital and recurring) should be included in the project cost and for progressive and final mine closure plan.
  - (xxxvii) Details of R&R. Detailed project specific R&R Plan with data on the existing socio-economic status of the population (including tribals, SC/ST, BPL families) found in the study area and broad plan for resettlement of the displaced population, site for the resettlement colony, alternate livelihood concerns/employment for the displaced people, civic and housing amenities being offered, etc and costs along with the schedule of the implementation of the R&R Plan should be given.
  - (xxxviii) CSR Plan along with details of villages and specific budgetary provisions (capital and recurring) for specific activities over the life of the project should be given.
  - (xxxix) Corporate Environment Responsibility:
    - a) The Company must have a well laid down Environment Policy approved by the Board of Directors.
    - b) The Environment Policy must prescribe for standard operating process/procedures to bring into focus any infringements/deviation/violation of the environmental or forest norms/conditions.
    - c) The hierarchical system or Administrative Order of the company to deal with environmental issues and for ensuring compliance with the environmental clearance conditions must be furnished.
    - d) To have proper checks and balances, the company should have a well laid down system of reporting of non-compliances/violations of environmental norms to the Board of Directors of the company and/or shareholders or stakeholders at large.
  - (xl) Details on Public Hearing should cover the information relating to notices issued in the newspaper, proceedings/minutes of Public Hearing, the points raised by the general public and commitments made by the proponent and the action proposed with budgets in suitable time frame. These details should be presented in a tabular form. If the Public Hearing is in the regional language, an authenticated English Translation of the same should be provided.
  - (xli) In built mechanism of self-monitoring of compliance of environmental regulations should be indicated.
  - (xlii) Status of any litigations/ court cases filed/pending on the project should be provided.
  - (xliii) Submission of sample test analysis of Characteristics of coal: This should include details on grade of coal and other characteristics such as ash content, S and heavy metals including levels of Hg, As, Pb, Cr etc.

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

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

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

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**GENERIC TORs FOR AN UNDERGROUND COALMINE  
PROJECT**

- (i) An EIA-EMP Report shall be prepared for MTPA rated capacity in an ML/project area of ha based on the generic structure specified in Appendix III of the EIA Notification,2006.
- (ii) An EIA-EMP Report would be prepared for MTPA rated capacity to cover the impacts and environment management plan for the project specific activities on the environment of the region, and the environmental quality encompassing air, water, land, biotic community, etc. through collection of data and information, generation of data on impacts including prediction modeling for MTPA of coal production based on approved project/Mining Plan for MTPA. Baseline data collection can be for any season (three months) except monsoon.
- (iii) A Study area map of the core zone (project area) and 10 km area of the bufferzone (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 BiosphereReserves/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 inthe 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 majorrivers/streams outside the lease/project area) should also be clearly indicatedin the separate map.
- (vi) A detailed Site plan of the mine showing the proposed break-up of the land for mining operations such as the quarry area, OB dumps, green belt, safety zone, buildings, infrastructure, CHP, ETP, Stockyard, township/colony (within and adjacent to the ML), undisturbed area -if any, and landscape features such as existing roads, drains/natural water bodies to be left undisturbed along with any natural drainage adjoining the lease /project areas, and modification of thereof in terms of construction of embankments/bunds, proposed diversion/re-channelling of the water courses, etc., approach roads, major haul roads, etc should be indicated.
- (vii) Original land use (agricultural land/forestland/grazing land/wasteland/waterbodies) of the area should be provided as per the tables given below. Impactsof project, if any on the land use, in particular, agricultural land/forestland/grazing land/water bodies

falling within the lease/project and acquired for mining operations should be analyzed. Extent of area under surface rights and under mining rights should be specified.

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

#### Area under Surface Rights

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

- (viii) Study on the existing flora and fauna in the study area (10km) should be carried out by an institution of relevant discipline. The list of flora and 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 (PM<sub>10</sub>, PM<sub>2.5</sub>, SO<sub>x</sub>, NO<sub>x</sub> and heavy metals such as Hg, Pb, Cr, As, etc), noise, water (surface and groundwater), soil - along with one-season met data coinciding with the same season for AAQ collection period should be provided.
  - (xiii) Map (1: 50, 000 scale) of the study area (core and buffer zone) showing the location of various sampling stations superimposed with location of habitats, other industries/mines, polluting sources, should be provided. The number and location of the sampling stations in both core and buffer zones should be selected on the basis of size of lease/project area, the proposed impacts in the downwind (air)/downstream (surface water)/groundwater regime (based on flow). One station should be in the upwind/upstream/non-impact/non-polluting area as a control station. The monitoring should be as per CPCB guidelines and parameters for water testing for both ground water and surface water as per ISI standards and CPCB classification wherever applicable. Observed values should be provided along with the specified standards.
  - (xiv) Impact of mining and water abstraction from the mine on the hydrogeology and groundwater regime within the core zone and 10 km buffer zone including long-term monitoring measures should be provided. Details of rainwater harvesting and measures for recharge of groundwater should be reflected in case there is a declining trend of groundwater availability and/or if the area falls within dark/grey zone.
  - (xv) Study on subsidence including modeling for prediction, mitigation/prevention of subsidence, continuous monitoring measures, and safety issues should be carried out.
  - (xvi) Detailed water balance should be provided. The breakup of water requirement as per different activities in the mining operations, including use of water for sand stowing should be given separately. Source of water for use in mine, sanction of the Competent Authority in the State Govt. and impacts vis-à-vis the competing users should be provided.
  - (xvii) Impact of choice of mining method, technology, selected use of machinery and impact on air quality, mineral transportation, coal handling & storage/stockyard, etc, Impact of blasting, noise and vibrations should be provided.
  - (xviii) Impacts of mineral transportation within the mining area and outside the lease/project along with flow-chart indicating the specific areas generating fugitive emissions should be provided. Impacts of transportation, handling, transfer of mineral and waste on air quality, generation of effluents from workshop etc, management plan for maintenance of HEMM and other machinery/equipment should be given. Details of various facilities such as rest areas and canteen for workers and effluents/pollution load emanating from these activities should also be provided.
  - (xix) Effort be made to reduce/eliminate road transport of coal inside and outside mine and for mechanized loading of coal through CHP/ Silo into wagons and trucks/tippers.
  - (xx) Details of various facilities to be provided to the workers in terms of parking, rest

areas and canteen, and effluents/pollution load resulting from these activities should also be given.

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

budgets in suitable time frame. These details should be presented in a tabular form. If the Public Hearing is in the regional language, an authenticated English Translation of the same should be provided.

- (xxx) In built mechanism of self-monitoring of compliance of environmental regulations should be indicated.
- (xxxi) Status of any litigations/ court cases filed/pending on the project should be provided.
- (xxxii) Submission of sample test analysis of Characteristics of coal: This should include details on grade of coal and other characteristics such as ash content, S and heavy metals including levels of Hg, As, Pb, Cr etc.
- (xxxiii) Copy of clearances/approvals such as Forestry clearances, Mining Plan Approval, mine closer plan approval. NOC from Flood and Irrigation Dept.(if req.), etc. wherever applicable.

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

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

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## **ANNEXURE-VII**

### **GENERIC TORs FOR AN OPENCAST -CUM UNDERGROUND COAL MINE PROJECT**

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

**LIST OF PARTICIPANTS OF EAC (COAL) IN 5<sup>th</sup> MEETING HELD ON 21-22 DECEMBER, 2023 THROUGH VIDEO CONFERENCING**

1.	Dr. Sharad Singh Negi (I.F.S Retd.)			DAY
		-	Chairman	P
2.	Sh. Inder Pal Singh Matharu, (I.F.S. Retd.)	-	Member	P
3.	Sh. Lalit Kapur (Retd. Adviser, MoEFCC)	-	Member	P
4.	Dr. Umesh Jagannathrao Kahalekar	-	Member	P
5.	Shri K.B. Biswas	-	Member	P
6.	Sh. Savalge Chandrasekhar	-	Member	P
7.	Prof. Shyam Shanker Singh		Member	P
8.	Dr. Vinod Agrawal		Member	P
9.	Dr. Santosh Kumar Hampannavar	-	Member	P
10.	Prof. R M Bhattacharjee, Representative of IIT/ISM Dhanbad	-	Member	P
11.	Shri M.P Singh, Representative of CEA	-	Member	P
12.	Representative of IMD	-	Member	P
13.	Dr. Nazimuddin Representative of Central Pollution Control Board	-	Member	P
14.	Shri Lalit Bokolia, Director, MoEFCC	-	Member Secretary	P

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