

## MINUTES OF 38<sup>th</sup> MEETING OF THE EXPERT APPRAISAL COMMITTEE FOR ENVIRONMENT APPRAISAL OF COAL MINING PROJECTS HELD DURING 14-15 DECEMBER, 2022 THROUGH VIDEO CONFERENCE.

Confirmation of the Minutes of 37<sup>th</sup> Meeting of the EAC (Coal) held on 17<sup>th</sup> and 18<sup>th</sup> November, 2022: The minutes of the Meeting of the EAC (Coal) held on 17<sup>th</sup> and 18<sup>th</sup> November, 2022 as confirmed by the Chairman.

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

**Consideration of Proposals:** The 38<sup>th</sup> meeting of the Expert Appraisal Committee (EAC) for coal mining projects was held during 14-15 December, 2022 through video conferencing with support NIC team due to Covid-19 lockdown. The EAC considered proposals as per agenda adopted for the meeting. List of participant attended the meeting is annexed. The details of deliberations held & decisions taken in the meeting are as under.

### **Agenda No. 38.1**

**Expansion of Srirampur Opencast Coal Mine II from 2.50 to 3.50 MTPA with increase in MLA from 707.63 to 1604.11 ha by M/s The Singareni Collieries Company Limited located at Village Ramaraopet, Mandal & District Mancherial (Telangana) – Reconsideration for Environmental Clearance-reg.**

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

**38.1.1** The proposal is for Environmental Clearance for expansion of Srirampur Opencast Coal Mine II from 2.50 to 3.50 MTPA with increase in MLA from 707.63 ha to 1604.11 ha by M/s The Singareni Collieries Company Limited located at Village Ramaraopet, Mandal & District Mancherial (Telangana).

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

Earlier, the project of Environmental Clearance of Expansion of Srirampur Opencast Coal Mine II was considered by EAC in its 22<sup>nd</sup> meeting held on 12<sup>th</sup> November, 2021 and the proposal was deferred for want of additional information. The compliance was submitted by project proponent on 30.11.2022 and accordingly considered by EAC in its 38<sup>th</sup> meeting held during 14-15 December, 2022. Accordingly, EAC noted the submission of project proponent as detailed below:

| <b>Sr. No.</b> | <b>Observation of EAC</b>                  | <b>Reply of Project Proponent</b>               |
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| 1              | PP to re-monitor the surface water quality | PP has submitted Surface water quality of water |

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|   | for water bodies within buffer zone as per the guidelines of CPCB and also conduct proper source apportionment study contributing PM10 in air within the buffer zone of mine.  | bodies has been re-monitored at six locations within buffer zone as per the CPCB guidelines.<br><br>The study has been conducted by NEERI, Nagpur during May 2022 to Oct 2022.  |
| 2 | PP to elaborate the anticipated environmental impacts & mitigation measures in terms of dump slide protection through toe wall as size of toe was inadequate, soil erosion, drainage collection of mine area, protection of flood plain of Godavari river, plantation, etc.q                               | PP has submitted the mitigation measures in terms of protection of flood plain of Godavari river.   |
| 3 | PP to clarify mine approval in terms lease area and production capacity of 3.5 MTPA as these were not mentioned in the approval letter (Revision III) of the mine plan uploaded by the PP. PP to submit a copy of approved mining plan with approval letter indicating production capacity with mine area. | PP has submitted the Mining plan approval in terms of lease area and production capacity mentioned on the cover page as well as relevant places in the approved Mining Plan including Mine Closure Plan of 3.5 MTPA, attested by the Under Secretary, Ministry of Coal, GoI.  |
| 4 | PP to clarify about recommendation given by Ground Water Department of Telangana State on ground water permission as letter conveys without validity, permission of existing mine and proposed expansion but it is simply recommendation report.   | PP has submitted the Ground Water Clearance for the proposed SRP OC-II Expansion was obtained from State Ground Water Department vide Lr.No.236/SCCL/ 2017, dated 7 <sup>th</sup> September, 2018 and was renewed on 26th September 2022 with a validity period of two years. |
| 5 | PP needs to address the issues raised in public hearing and demands to local development with adequate budgetary provision with time bound action plan.  | PP has submitted the issues of public hearing and demands to local development with adequate budgetary provision are addressed with time bound action plan.   |
| 6 | Many high tension power line area passing by the mine lease PP must clarify whether any diversion is proposed or not.  | PP has clarified about the high tension power line area that 2 No. of HT power lines of 400 kV are passing at south side of the project area, leading from the Singareni Thermal Power Plant (STPP), Jaipur to 400 kV SubStation, Gajwel and 400 kV Sub-Station, Sundilla.    |

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|    |  | PP informed that there was no proposal of diversion of these HT power lines.   |
| 7  | PP shall submit letter from PCCF that mine does not fall under corridors of any National Park and Wildlife Sanctuary and does not involve any violation of forest area and wild sanctuary with certified map showing distance of nearest sanctuary.                  | PP has submitted the letter issued by PCCF and HoFF (FAC), Government of Telangana stating that the proposed area is not falling in any wild life Sanctuary, National Park, Tiger Reserve, Wild life corridor etc. and also not falling within the eco-sensitive zone of Wildlife Sanctuary, National Park, Tiger Reserve. |
| 8  | The socio –economic study to be conducted with actual survey report and a comparative assessment to be done from the census data with detailing of economic status of the study area. The quantification on the need based survey for CSR activities to be followed. | PP has submitted the Comparative assessment of actual survey report of the socio–economic study with the census data.  |
| 9  | The drainage map may be furnished with detailing of catchment area rivulets/streams and rivers coming under 10 km radius buffer zone and linked with water augmentation plan as EMP measures.  | PP has submitted the area drained by the perennial River Godavari flowing towards southeast across the buffer area. Its ephemeral tributaries viz., Ralla vagu, Tolla vagu and Tekumatla vagu (Pedda vagu) are flowing towards south to join Godavari River.   |
| 10 | PP shall provide complete traffic study highlighting the change in V/C with its LOS and consequential air modelling should include contributing factors responsible for air PM10 within 10 km radius buffer zone.  | PP has submitted that the coal transportation by road is eliminated and switched over to rail mode since January 2020.<br><br>From in pit to surface by Belt Conveyors, from surface to siding/loading by Belt Conveyors and from siding/loading to end users by Rail.   |
| 11 | The base line data on the health to be furnished in EIA/EMP report   | PP has submitted the Base line data on health status of the people in the study area.  |
| 12 | PP shall submit action plan for implementation of sand segregation plant to extract sand and aggregate (since quantity of OB is higher) to reduce agricultural land degradation.   | PP has submitted that Sand segregation plant (Processed Over-Burden Plant - POB) with a capacity of 1500 m <sup>3</sup> /day is already installed in the Project during the year 2015.<br><br>The POB is being utilized for hydraulic sand   |

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|    |   | <p>stowing in U/G coal mines. This helps in preventing over exploitation of river sand thereby protecting the environment.</p> <p>To reduce agriculture land degradation, it is proposed to backfill 64% of OB in de-coaled void and remaining 36% will be accommodated in external dump.</p> <p>It is proposed to restore 236.57 ha of land for agriculture use at the post-closure stage in the proposed expansion project in addition to 840.76 ha of plantation.</p> |
| 13 | PP to submit the detailed plan for tree plantation along with development of nursery with native species only with time bound manner action plan. | PP has submitted that the plantation has been carried out in 333.04 ha till date which includes 245.54 ha in project area and 87.50 ha outside project (beyond mandate). Besides this, 44.26 ha of avenue plantation has been carried out in Mancherial (19.76 km) and Naspur (24.5 km) Municipalities.  |
| 14 | PP shall submit a video recording of the site from drone in next meeting, particularly near toe wall to Godavari side.                            | PP had shown the video recording of the Mine site from drone.  |
| 15 | The NABL certificate of the lab conducting base line data monitoring to be furnished in EIA/ EMP report.  | PP has submitted the Environmental Protection Training & Research Institute (EPTRI) Lab is NABL accredited vide Certificate No.TC-7709, dated 25.08.2021, valid up to 24.08.2023. The certificate is incorporated in the EIA/EMP report.   |
| 16 | PP to apply for star rating as per the guidelines issued by Ministry of Coal and submit the documentary proof                                     | PP has submitted the guidelines issued by Ministry of Coal, application for star rating was submitted for the years 2018-19, 2019-20, 2020-21 and 2021-22. 3 star rating was awarded for the years 2018-19 and 2019-20 and results of subsequent years are yet to be declared.   |
| 17 | Status report to all the non-compliance and   | PP has submitted the Status report on partial  |

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|  | partial compliance highlighted by Ministry's IRO shall be submitted with time bound action plan. | compliance observed by R.O, MoEF&CC, Hyderabad, after inspection of SRP OC-II Project on 29 <sup>th</sup> July, 2021. |
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**38.1.3** The committee during the EAC noted the following:

- i. The EC was granted for capacity of 2.5 MTPA in MLA of 707.63 ha vide letter no. J-11015 /212 /2007-IA.II (M) dated 11<sup>th</sup> July, 2008 to Srirampur Opencast Project-II.
- ii. The Terms of Reference was granted for expansion from 2.5 to 3.5 MTPA with increase in MLA from 707.63 to 1604.11 ha vide letter no. J-11015/212/2017-IA. II (M) dated 02.02.2018.
- iii. The Mining Plan (Including Mine Closure Plan) has been approved by MoC vide No. 13016/1/2017-PCA dated 21<sup>st</sup> August 2017.
- iv. The Life of mine is 17 years from 2021-22.
- v. The EAC observed that the PP has obtained the FC for 113.93 ha out of 276.38 ha of forest land vide MoEF&CC F. No. 8-56/91-FC/1777/F dated 29<sup>th</sup> May, 2001 and F.No. 8- 27/2007-FC dated 16<sup>th</sup> June, 2009. For the rest forest land of 162.45 ha stage-I FC has been obtained vide F.No.8-06/2019 FC dated 12<sup>th</sup> March, 2021.
- vi. The Wildlife conservation plan has been prepared for Scheduled-I species with budgetary provision of Rs 120.50 Lakhs.
- vii. The EAC observed that the Public hearing was conducted on 19.09.2018 and the major issues were land compensation, employment, infrastructure development, plantation, medical facility, water pollution problem, drainage and blasting, etc.
- viii. The CTO vide no. 210522749651 for the existing capacity was obtained from the State PCB on 25<sup>th</sup> February, 2021 and is valid till 31<sup>st</sup> March, 2026.
- ix. The EAC observed that the Godavari River flows in the South side of the mining lease area and external dump is located close to the river.

**38.1.4** *The EAC after detail deliberation noted that the instant project is a brown field project for the expansion from 2.5 MTPA to 3.5 MTPA with increase in Mine lease area from 707.63 ha to 1604.11 ha. The Committee noted that the monitored value of the surface water and PM10 concentration was within the prescribed limit. Check dam, Toe wall & Garland drain was prepared as well plantation around the dump site has been completed to protect the dump slide into the Godavari river. The complete infrastructure including the plantation around the Godavari river needs regular monitoring mechanism in order to stop any mishappening. The Mining plan including Mine Closure Plan of 3.5 MTPA has been approved by Ministry of Coal. NOC for Ground Water has been renewed on 26th September 2022 with a validity of two years. Further, public hearing issues and demands to local development were addressed with adequate budgetary provision with time bound action plan. The PP also submitted that project area does not fall in any eco-sensitive area and no diversion of HT power lines is required. A socio-economic study was also conducted and submitted for the study area as well as a drainage map has been furnished by the PP. It was also noted that the PP had shifted coal transportation from Road to Rail Mode since January 2020. The EAC also noted that the baseline*

*data on the health has been furnished in the EIA/EMP report. PP had also submitted the action plan for implementation of sand segregation. Plan for tree plantation has also been submitted by the project proponent. The NABL certificate of the lab conducting base line data was valid till 24.08.2023. MOC had awarded 3 star rating for Srirampur OC-II for the years 2018-19 and 2019-20. CCR has been submitted by the PP vide letter No. ENV/IRO-HYD/CCR-16/A/2021/54 dated 31.08.2021.*

*During the course of discussions, PP shown the video recording of the mine site and the same was appreciated by expert committee. The committee emphasised to make a Garland drain around the Periphery of the dump site along the Godavari River to restrict the direct flow of the mine water into the Godavari river. The Garland water should be collected first and then it should pass through ETP for reuse purpose or for discharge into the river. The Committee instructed PP to take amendment of EC in near future for sand recovery within mine lease area. The Committee also emphasized for the stability of the dump with a regular monitoring mechanism particularly on the Godavari river side.*

*Based on the above discussion, EAC **recommended** the Environmental Clearance for expansion of Srirampur Opencast Coal Mine II from 2.50 to 3.50 MTPA with increase in MLA from 707.63 to 1604.11 ha by M/s The Singareni Collieries Company Limited located at Village Ramaraopet, Mandal & District Mancherial (Telangana) under the provisions of EIA Notification, 2006 and its amendments therein with following additional specific conditions to be followed:*

- (i) PP shall obtain CTE/CTO for capacity enhancement upto 3.5 MTPA.*
- (ii) PP shall not use any forest land for any infrastructure and overburden dumping, even if the said forest land is coal bearing area.*
- (iii) The Project proponent shall take all the effective measures in order to protect from the flow of any type of mine water into the Godavari river. The PP shall make a continuous monitoring mechanism by collecting the sample from near boundary of MLA and Godavari river. The data should be submitted to IRO in every six month.*
- (iv) The Project proponent shall make a Garland drain at sufficient distance and at the sufficient height from the bank of Godavari river and the same water should be collected first to pass through ETP for reuse purpose or for discharge into the river.*
- (v) The Project proponent will not be allowed to recover the sand without prior permission.*
- (vi) The project proponent shall install the water sprinklers system along the dedicated coal transportation route near to village as well as in the mining site area with consultation of Gram Panchayat.*
- (vii) The Project proponent shall implement the dust suppression system at the transportation site and in the other parts of the mining lease to arrest the fugitive dust emission.*
- (viii) The Project proponent shall take necessary other clearances/permissions under various Acts and Rules if any, from the respective authorities / department.*
- (ix) PP shall implement 20% of mining machineries & trucks/dumpers operating with LNG/CNG/Electrical in order to curb the pollution due to mining activity*
- (x) PP shall use only surface miner for mining operation/coal extraction instead of shovel dumper method.*
- (xi) The status of mine closure activities must be included in every six months compliance report*

- submitted to the state pollution control board and IRO.*
- (xii) PP shall not use any village road for coal transportation and shall only transport through conveyor system with silo loading system at railway siding.*
  - (xiii) PP to install solar lights along the road used for transportation of minerals to avoid the accidents at night and also seek its maintenance. PP is asked to also identify the rural areas for installation of solar light with its maintenance within the study area of 10 km radius buffer zone within one year.*
  - (xiv) PP to provide bio toilets to the villages located within the study areas within 1 year from the grant of this EC.*
  - (xv) Persons of nearby villages shall be given training on livelihood and skill development to make them employable with its proper records.*
  - (xvi) PP to fulfill all the commitment made in the minutes of public hearing to address the issues raised therein in a time bound manner and a progressive report to be furnished to IRO in every six monthly as compliance report.*
  - (xvii) 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.*
  - (xviii) 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.*
  - (xix) 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 at site itself which should comprise of Environment Engineers, Laboratory chemist and staff for monitoring of air, water quality parameters on routine basis instead of engaging environment monitoring laboratories/consultants. Any non- compliance or infringement should be reported to the concerned authority.*
  - (xx) Hon'ble Supreme Court in an Writ Petition(s) Civil No. 114/2014, Common Cause vs Union of India & Ors vide its judgement dated 8th January, 2020 has directed the Union of India to impose a condition in the mining lease and a similar condition in the environmental clearance and the mining plan to the effect that the mining lease holders shall, after ceasing mining operations, undertake re-grassing the mining area and any other area which may have been disturbed due to their mining activities and restore the land to a condition which is fit for growth of fodder, flora, fauna etc. Compliance of this condition after the mining activity is over at the cost of the mining lease holders/Project Proponent". The implementation report of the above said condition shall be sent to the Regional Office of the MoEF&CC.*

## **Agenda No. 38.2**

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

**[Online Proposal No. IA/OR/CMIN/402999/2022; File No. IA-J-11015/68/2016-IA-II (M)]**

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

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

- 1) The project area is covered under Survey of India Topo Sheet No. 73 C/2 and is bounded by the geographical coordinates ranging from 21°42'39.1" to 21°42'49.6" N and Longitude 84°02'25.2" to 84°02'43.9" E.
- 2) Coal linkage of the project is proposed for commercial use for various industries.
- 3) Joint venture cartel has been formed: No
- 4) 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.
- 5) Employment generation, Direct employment to 70 persons will be provided from the project.
- 6) The project is reported to be beneficial in terms of Environmental, Social, Financial aspects.
- 7) No Earlier, the environment clearance to the project was obtained under EIA Notification, 2006.
- 8) Terms of Reference was granted on 28.06.2022.
- 9) Total project area proposed is 12.65 ha.
- 10) The land usage pattern of the project is as under

Proposed Land use pattern:

| Land Use  | Total (Ha) |
|---|------------|
| Washery Plant   | 3.14       |
| ROM Coal Stock Yard   | 2.02       |
| Clean Coal, Middling & Rejects Staking Area   | 1.42       |
| Other Infrastructure like Office building, Internal roads, Weigh bridge, Water reservoir, Canteen, Labourer room, Maintenance shed, Stores etc. | 1.90       |
| Plantation  | 4.17       |
| Total Project Area =  | 12.65      |

- 11) Transportation of coal has been proposed by belt conveyor in coal washery, from washery to Siding by belt conveyor and at siding onwards by rail.
- 12) Reclamation Plan in an area of 4.17 ha, comprising green belt.
- 13) No forest land has been reported to be involved in the project.
- 14) No National Parks, Wildlife Sanctuaries and Eco-Sensitive Zones have been reported with 10 km boundary of the project.



- 15) The ground water level has been reported to be varying between 6.5 m to 10.6 m during pre-monsoon and between 1.9 m to 3.1 m during post-monsoon. Total water requirement for the project is 1320 KLD (55 cum/Hr).
- 16) Ground water will not be used for this project. NOC obtained from Department of water resources for withdrawal of water from Hirakud reservoir in phase manner against the approved allocation of 4.41 cusecs of water vide its letter no: 13829/WR, dated 6<sup>th</sup> June, 2017.
- 17) Public hearing for the project of coal washery of 5.0 MTPA capacity in an area of 12.65 Ha was conducted on 12.01.2021 at Bomaloi Gram Panchayat Office Premises, Rengali Tehsil, Sambalpur District, Odisha Major issues raised in the public hearing include Air & water pollution, Employment, Village infrastructure, Education, Health, etc. Accordingly, appropriate action to address the issues raised in the Public Hearing are addressed in final EIA/EMP. A budget of Rs. 73.00 Lakh has been earmarked for implementation of the Action plan for addressing issues raised in the public hearing.
- 18) Consent to Operate for the shall be obtained from the Odisha State PCB.
- 19) Seasonal nala is flowing adjacent to southern side of the project boundary. No nala diversion is proposed.
- 20) Regular monitoring of ambient air quality is being carried out on fortnightly basis for the existing integrated steel plant. The documented report is being submitted to OPCB and also to MoEF&CC along with half yearly EC compliance report. In general, the results of ambient air quality monitoring data were found within prescribed limits except few aberrations which can be attributed to the specific local conditions during the day of sampling.
- 21) No court cases, violation cases are pending against the project of the PP.
- 22) The project does not involve violation of the EIA Notification, 2006 and amendment issued there under. The project is yet to be established.
- 23) The project involves no project affected families. R&R of the PAPs is not required.
- 24) Total cost of the project is Rs. 6070 lakhs. Cost of production is Rs. NA, CSR cost is Rs. 1.0 per tonne, R&R cost not applicable. Environment Management Cost is Rs. 232 Lakh as capital and Rs. 43.75 Lakh/annum as recurring cost.

**38.2.3** The Committee during the EAC meeting noted the following:

- i. The Environmental Clearance was obtained vide Letter No. J-13012/60/2007-IA-II(I) dated 16<sup>th</sup> September, 2008 for the expansion of Sponge Iron Plant by M/s Aryan Ispat & Power Pvt. Ltd.
- ii. The terms of reference was granted on 28.06.2022 with exemption in public hearing.
- iii. The EAC observed that no forest land involved in the project area.
- iv. The Ground water will be used for drinking purpose only not for the project. The water requirement will be fulfilled from Hirakud reservoir after getting all statutory clearance.

**38.2.4** *The committee during the deliberation observed that the instant project was a fresh Coal washery project for which public hearing was already conducted on 12.01.2021 prior to the grant of terms of reference dated 28.06.2022. The PH was conducted based on earlier ToR obtained PP for expansion but failed to apply before the expiry of validity of ToR. Further, Committee noted from the*

*kml that greenery already exists in the proposed lease area. Subsequently the committee emphasised to save the trees exist in the proposed lease area and if any tree will be cut in the process of installing Coal washery then at least 10 trees should be planted in place of 1 cutting tree. The committee also noted that the rail network exist very near to the lease area so coal will be transported from rail only and no road transportation will be allowed.*

*During the Course of discussion, Committee highlighted about final Notification for Badrama Wildlife Sanctuary and Khalasuni Wildlife Sanctuary dated 29.08.2019 issued by MoEF&CC and expressed displeasure for unawareness of this fact. Therefore, the committee advised to PP for submission of map showing exact location of the project area w.r.t. the existing wildlife sanctuary. Subsequently, it was also noted that the Aryan Ispat having separate washery with capacity of 0.7 MTPA while the proposed washery of 5 MTPA capacity will be operated separately in each aspect. As the proposed washery lies on the same lease area of Aryan Ispat steel plant therefore committee advised to take amendment in the EC letter issued to M/s Aryan Ispat & Power Pvt. Ltd. Dated 16.09.2008.*

*In view of above, EAC observed that PP has to submit the compliance of below mentioned observation for further consideration of the project.*

- i. PP shall obtain the EC amendment issued to Steel Manufacturing plan of M/s Aryan Ispat & Power Pvt. Ltd. dated 16.09.2008 for reduction in the area and demarcate properly the washery area.*
- ii. PP shall submit the phase wise implementation and installation plan of the Coal washery keeping in mind that no tree to be cut in the mine lease area.*
- iii. PP shall submit an authenticated map showing the exact location of the project area w.r.t. the existing wildlife sanctuary and certify the same from PCCF that project does not come any notified sanctuary.*
- iv. The PP shall submit the plan to protect the nearest fringe of Sambalpur Elephant Reserve [SER] lie at distance of 0.1 km towards east.*
- v. PP shall submit the land use pattern considering 33% of three tier plantation excluding the area of steel plant.*
- vi. PP shall submit the proof of submission of Draft EIA to SPCB before issuance public notice.*
- vii. PP shall submit the air quality data for 3 months and analysis data all heavy metals in surface and ground water as per Terms of Reference.*
- viii. PP shall submit the detail plan for source of water, discharge, treatment and recycling of wastewater generated from washery w.r.t. Zero Liquid Discharge system.*
- ix. PP shall submit the plan for medical facility, public school, children park and village pond with suitable photographs and the demarcated land area for the same.*
- x. PP shall submit letter from PCCF regarding no Schedule-I species present in the 10 km buffer area of project since it has submitted in EIA that Elephant Reserve is at a distance of 0.1 KM. Wildlife Conservation Plan should be submitted as per presence of Schedule I species.*
- xi. PP shall submit the plan for drinking water supply to the two villages Phulchanger and one adjacent village.*
- xii. PP shall submit the plan for connecting road to village Phulchanger.*

- xiii. *PP shall submit the number of employment to be provided to the local people as per their educational qualification and also mention the skill to be provided to the locals so that they can withstand their family.*
- xiv. *PP shall submit the revised EMP budget so that they can address the above issues and separately mention the Budget of Public Hearing excluding the activities of CSR.*
- xv. *PP shall submit the transportation route via rail for incoming and outgoing supply of Coal.*
- xvi. *PP shall submit cumulative impact of steel plant (already existing) and proposed coal washery plant.*

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

### **Agenda No. 38.3**

**Dipka Opencast Coal Mine Project of capacity 40 MTPA (Peak) of M/s South Eastern Coalfields Limited in an mine lease area of 1999.386 ha located in Tehsil Katghora, District Korba (Chhattisgarh) - For Amendment of Terms of Reference dated 08.06.2020 reg.**

**[Online Proposal No. IA/CG/CMIN/294232/2022; File No. J-11015/487/2007-IA-II (M)]**

**38.3.1** The proposal is for Amendment of Terms of Reference dated 08.06.2020 for Dipka Opencast Coal Mine Project of capacity 40 MTPA (Peak) of M/s South Eastern Coalfields Limited in a mine lease area of 1999.386 ha located in Tehsil Katghora, District Korba (Chhattisgarh).

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

The proposal for amendment in ToR has been submitted by Project Proponent since there is change in initial production figures i.e. from 35 MTPA to 37.5 MTPA. This change is due to PP obtaining EC for expansion in capacity under Ministry's OM dated 7<sup>th</sup> May, 2022 (10%), applicable for such project which has already obtained EC under special relaxation (exemption in public hearing without change in mine lease area) given by Ministry from time to time i.e. upto 40%. Accordingly, PP has requested to amend the ToR dated 08.06.2020 for administrative purpose.

**38.3.3** *The Committee, after deliberation observed the instant proposal is only the change in initial capacity of project since PP has obtained expansion in capacity of EC from 35 MTPA to 37.5 MTPA on 05.09.2022 under Special dispensation OM issued by Ministry and applied for clarity/rectification in administrative file for records. Prior to this special relaxation, the ToR was granted for 40 MTPA (peak) from 35 MTPA (Normative) production capacity dated 08.06.2020 under the Normal procedure of EIA Notification, 2006.*

*In view of the this, committee **recommended** the amendment of Terms of Reference dated 08.06.2020 for Dipka Opencast Coal Mine Project with production capacity from 37.5 to 40 MTPA of M/s South Eastern Coalfields Limited in a mine lease area of 1999.386 ha located in Tehsil Katghora, District Korba (Chhattisgarh), under the provisions of EIA Notifications, 2006 and its amendments therein.*

#### **Agenda No. 38.4**

**Expansion of Gevra Opencast Coal Mine, from 49 MTPA to 70 MTPA with increase of mine in lease area from 4184.486 Ha to 4781.798 Ha of M/s South Eastern Coalfields Limited located in Tehsil Katghora, District Korba (Chhattisgarh) - For Amendment of Terms of Reference dated 07.03.2022 reg.**

**[Online Proposal No. IA/CG/CMIN/293628/2022; File No. J-11015/85/2010-IA-II(M)]**

**38.4.1** The proposal is for Amendment of Terms of Reference dated 07.03.2022 expansion of Gevra Opencast Coal Mine, from 49 MTPA to 70 MTPA with increase of mine in lease area from 4184.486 Ha to 4781.798 Ha of M/s South Eastern Coalfields Limited located in Tehsil Katghora, District Korba (Chhattisgarh).

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

The proposal for amendment in ToR has been submitted by Project Proponent since there is change in initial production figures i.e. from 49 MTPA to 52.5 MTPA. This change is due to PP obtaining EC for expansion in capacity under Ministry's OM dated 7<sup>th</sup> May, 2022 (10%), applicable for such project which has already obtained EC under special relaxation (exemption in public hearing without change in mine lease area) given by Ministry from time to time i.e. upto 40%. Accordingly, PP has requested to amend the ToR dated 07.03.2020 for administrative purpose.

*38.4.3 The Committee, after deliberation observed the instant proposal is only the change in initial capacity of project for which ToR was granted on 07.03.2022 since PP has obtained expansion in capacity of EC from 49 MTPA to 52.5 MTPA on 05.09.2022 under special dispensation OM issued by Ministry and applied for clarity/rectification in administrative files for records. In view of the this, committee **recommended** the amendment of Terms of Reference dated 07.03.2020 for expansion of Gevra Opencast Coal Mine, from 49 MTPA to 70 MTPA with increase of mine in lease area from 4184.486 Ha to 4781.798 Ha of M/s South Eastern Coalfields Limited located in Tehsil Katghora, District Korba (Chhattisgarh), under the provisions of EIA Notifications, 2006 and its amendments therein.*

#### **Agenda No. 38.5**

**West Bokaro Coking Coal Washery of 10 MTPA production capacity in an area 11.40 ha of M/s Tata Steel Ltd. (West Bokaro Division) Located in village Duni, Sarubera, Atna, Bhadwa & Sondiha, Tehsil Mandu, District Ramgarh (Jharkhand) – Reconsideration for Terms of Reference-reg.**

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

**38.5.1** The proposal is for Terms of Reference for West Bokaro Coking Coal Washery of 10 MTPA production capacity in an area of 11.40 ha of M/s Tata Steel Ltd. (West Bokaro Division) Located in village Duni, Sarubera, Atna, Bhadwa & Sondiha, Tehsil Mandu, District Ramgarh (Jharkhand).

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

Earlier, the project was considered in 28<sup>th</sup> EAC held on 1<sup>st</sup> April, 2022 and 34<sup>th</sup> meeting held on 23<sup>rd</sup> August, 2022 for grant of Terms of Reference for West Bokaro Coking Coal Washery wherein the proposal was deferred for want of additional information. The compliance was submitted by project proponent on 28.11.2022 and accordingly the project was considered by EAC in its 38<sup>th</sup> meeting held during 14-15 December, 2022. Accordingly, EAC noted the submission of project proponent as detailed below:

| <b>Sr. No.</b> | <b>Observation of EAC</b>  | <b>Reply of Project Proponent</b>  |
|----------------|--|--|
| 1              | Comprehensive study of mine area with actual sampling needs to be conducted by reputed institute / recognized laboratory to ascertain the location of washery within the mine as has been operated in the past. Accordingly, option analysis needs to be redone, | PP has submitted the information as suggested by EAC, detailed study was concluded by IIT (ISM) Dhanbad in which box samples were collected from 6 different locations and an array of tests such as Soil Classification, Liquid, Plastic limits determinations, Compaction characteristics, Shear strength behaviour best suited for the purpose were done whose results are appended in the report. Subsequently a geophysical test, MASW, was conducted at 6 different locations for ascertaining the behaviour at greater depth. As concluded in the report construction of washery above overburden dump is found infeasible. The detailed study & its findings are enclosed. |
| 2              | PP may further submit the layout of proposed washery plant with details of infrastructure & the plantation/ greenbelt upto 40% with other auxiliary items  | PP has submitted the information for the total area of the proposed washery that is 47.43 ha (battery area of washery is 11.4 ha). The green belt area is now increased from 15.97 ha (earlier proposal) to 19.16 ha, which is 40.40% of total area. The revised layout of the proposed washery is attached as Annexure - II. Further, it is stated that 14.11 ha is the existing operational railway corridor & siding area. The proposed area statement has been shown in the table below:   |

| Sl. No. | Description   |   | Area (ha) | % of total area of proposed washery plant |
|---------|---|---|-----------|---|
| 1       | Ropeway /Conveyor with road and maintenance area (augmentation of capacity) | A   | 2.64      | 5.57%                                     |
| 2       | Junction house and Silos (  | B   | 3.99      | 8.41%                                     |
| 3       | Washery with Infrastructure   | C   | 11.4      | 24.04%                                    |
| 4       | Misc. Infrastructure (Receiving Substation etc.)                            | D   | 3.76      | 7.93%                                     |
| 5       | Extended rail track for loading   | E   | 5.96      | 12.57%                                    |
| 6       | Water body  | F   | 0.52      | 1.10%                                     |
| 7       | Green belt  | G   | 19.16     | 40.40%                                    |
|         | Total area for proposed washery plant                                       | H<br>=<br>A<br>+B<br>+C<br>+<br>D<br>+E<br>+F<br>+<br>G | 47.43     |   |
| 8       | Railway Corridor & Siding (Operational)                                     | I   | 14.11     |   |

|  |  |  |            |                |       |  |
|--|--|--|------------|----------------|-------|--|
|  |  |  | Total Area | J =<br>H<br>+I | 61.54 |  |
|--|--|--|------------|----------------|-------|--|

Break-up of 11.40 Ha land for washery

| Area             | Type of Land                     | Current Use  |
|------------------|----------------------------------|--|
| 4.65 Ha          | Forest Land Broken prior to 1980 | Part of Current Infrastructure which includes Stockpile shed and bunkers, Conveyor/Conveyor Junction House, Equipment Maintenance shed |
| 6.75 Ha          | Additional/New Forest Land       | Proposed for coal handling and storage   |
| Total – 11.40 Ha |                                  |  |

**38.5.3** *The EAC after detail deliberations observed the result of the comprehensive study of the overburden area in coal mine project area. The study avail that the desired bearing pressure of >250-300 kPa at a depth of 28-30m or more and subsequently require rehandling of >5 M Cum of Overburden material. It was noted that the foundation will be unstable even below at 15 m of depth from the dump surface due to heterogeneity of ground. Because of the above limitation the dump surface area will not be the right place to install the Coal Washery.*

*Subsequently, after the submission of the documents vide email dated 20.12.2022 & 21.12.2022 the project area of 11.40ha for washery with infrastructure lie on the complete forest land. Stage II approval for 9.89 ha has been granted by MoEF&CC, vide letter no 10-249/FCE/480 dated 22.08.2022. It was informed through email that the 4.65 ha of Forest Land has been broken prior to 1980 while 6.75 ha of New Forest Land involved out of 11.40 ha of total project area.*

*Based on the above, EAC **recommended** the proposal for grant of Terms of Reference to West Bokaro Coking Coal Washery of 10 MTPA production capacity in project area of 11.40 ha of M/s Tata Steel Ltd. (West Bokaro Division) Located in village Duni, Sarubera, Atna, Bhadwa & Sondiha, Tehsil Mandu, District Ramgarh (Jharkhand) with following specific conditions along with standard conditions under the provisions of EIA Notification, 2006*

- i. PP shall install Coal washery with infrastructure in the project area of 11.40 ha.*
- ii. PP shall prepare EIA-EMP with detailed land use plan for washery infrastructure and furnish details of 33 % of the green belt plantation with trees within the plant boundary and also in adjoining area. Accordingly, three Tier Green belt developments all along the boundary in with time bound action plan in EIA/EMP report.*
- iii. PP shall complete the thee-tier plantation all along the boundary of the project area in order to reduce the pollution level. PP shall also ensure that the survival rate should not be less than 95%.*

- iv. *PP shall propose the minimal or no usage of ground water for washery operation since mine pit is located near the project site. Permission for using surface water and ground water (if preferred) shall be submitted during submission of EC proposal.*
- v. *PP should submit the complete water balance cycle need to be submitted considering only surface water usage for washery operations. In addition to this PP should submit a detailed plan for rain water harvesting measures to be taken. The PP should submit the year wise target for reduction in consumption of the ground water by developing alternative source of water through rain water harvesting measures. The capital and recurring expenditure to be incurred needs to be submitted.*
- vi. *PP should submit the real time aerial footage and video of the Coal Washery made through drone.*
- vii. *PP shall furnish the MoU for its washed coal and reject management, as per the respective MoC guidelines.*
- viii. *Mode of transportation should be clearly spell for raw coal, rejects and washed coal as the project is located near to the railway line. PP shall propose to implement conveyor system from railway siding for raw coal, washed coal and rejects till coal washery plant.*
- ix. *PP shall submit design details of all Air Pollution control equipment (APCEs) to be implemented as part of Environment Management Plan vis-à-vis reduction in concentration of emission for each APCEs.*
- x. *For proper baseline air quality assessment, Wind rose pattern in the area should be reviewed and accordingly location of AAQMS shall be planned by the collection of air quality data by adequate monitoring stations in the downwind areas. Monitoring location for collecting baseline data should cover overall the 10 km buffer zone i.e. dispersed in 10 km buffer area.*
- xi. *Project proponent to prepare Environmental Cost Benefit Analysis for the project in EIA/EMP Report.*
- xii. *Heavy metals including other parameters in surface water quality shall be analyzed and provided in EIA Report Sulphur content.*
- xiii. *The parameters Arsenic, Lead and Silica shall also be analyzed in ambient air quality.*

### **Agenda No. 38.6**

**Kulda Opencast Coal Mine Project with production capacity from 19.6 MTPA to 21 MTPA in Mine Lease area of 634.205 ha of M/s Mahanadi Coalfields Limited located at village Balinga, Tumulia, Siarmal, Kulda & Bankibahal, Tehsil Hemgir, District Sundargarh (Odisha) – Reconsideration for Amendment in Environmental Clearance dated 14.02.2022 & 24.05.2022 – reg.**

**[Online Proposal No. IA/OR/CMIN/276156/2022; File No. J-11015/10/1995-IA. II (M)]**

**38.6.1** The proposal is for Amendment in Environmental Clearance for Kulda Opencast Coal Mine Project with production capacity from 19.6 MTPA to 21 MTPA in Mine Lease area of 634.205ha of M/s Mahanadi Coalfields Limited located at village Balinga, Tumulia, Siarmal, Kulda & Bankibahal, Tehsil Hemgir, District Sundargarh (Odisha).



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

- i. The Project proponent has obtained the following environmental clearance vide letter no. J-11015/10/1995-IA. II (M):
  - a. EC was accorded by Ministry on 24.12.2002 for 10 MTPA in an ML area of 878.29 ha. Expansion in EC was granted by Ministry vide its letter dated 22<sup>nd</sup> March, 2018 from 10 to 14 MTPA with Public Hearing. Extension in validity of EC was granted on 28th March, 2019, 10th January, 2020.
  - b. EC vide letter dated 02.03.2021 for the expansion of the Kulda OC mining project from 14 MTPA to 16.80 MTPA in the MLA of 634.205 ha under the provisions of OM dated 15.09.2017 (20% increase- stage-1).
  - c. EC vide letter dated 14.02.2022 for the expansion of the Kulda OC mining project from 16.8 MTPA to 19.6 MTPA in the MLA of 634.205 ha under the provisions of OM dated 15.09.2017 (from 20 to 40% (stage-2).
  - d. EC vide letter dated 24.05.2022 for the expansion of the Kulda OC mining project from 19.6 MTPA to 21 MTPA in the MLA of 634.205 ha from 40% to 50% of original EC in compliance of Ministry's OM dated 07.05.2022 under clause 7(ii) of EIA Notification 2006. This was stage-3 expansion.
  - e. PP has requested to amend the following specific condition of EC letter which *inter alia* mentions below:

| <b>Specific Condition no.</b> | <b>Amendment required in EC conditions</b>   |
|-------------------------------|--|
| Specific Condition (v)        | PP shall implement in-pit conveyor system with silo loading facility till railway siding and No road transportation shall be allowed after December 2022 and accordingly, SPCB shall not grant CTO for road transportation after December, 2022.   |
| Specific Condition (ix)       | PP should not transport coal through road passing through any village and further ensure that its consumers of coal are also not using village road and passing through any sensitive location such as schools, hospitals etc. PP shall take legal undertaking from its consumers accordingly. |
| Specific Condition (xvi)      | PP shall deploy only 40-50 tonnes covered trucks/dumper to reduce fleet size till Rapid loading system and conveyor belt system is commenced. (i.e., till December 2022).  |

Earlier, the project was considered in 36<sup>th</sup> meeting held on 20-21 October, 2022 for grant of Amendment in Environmental Clearance for Kulda Opencast Coal Mine Project wherein the proposal was deferred for want of additional information. The compliance was submitted by project proponent on 23.11.2022 and accordingly the project was considered by EAC in its 38<sup>th</sup> meeting held during 14-15 December, 2022. Accordingly, EAC noted the submission of project proponent as detailed below:

| Sr. No. | Observation of EAC   | Reply of Project Proponent  |
|---------|--|---|
| 1       | PP shall rework and submit timeline not more than 6 months for implementation of specific condition (v) with undertaking on legal affidavit since it compliance already delayed.   | The Project proponent had submitted the detail attempt for the compliance of the specific condition (v).  |
| 2       | PP shall submit the list of contractors employed with their details such as Defense/widows/other private players etc. using low-capacity trucks against the total numbers.   | The Project proponent had submitted the detail about total numbers (100%) of low-capacity trucks engaged for coal transportation from in-pit of Kulda OCP till Sardega Siding belongs to either Ex-Service Men/Dependent/Widow in ESM Contracts & 50% belongs to PAP's in PAF's Contracts. The list of contractors employed for transportation of coal from Kulda OCP to Railway Sidings with complete details has been enclosed. |
| 3       | PP to submit the proposal with EIA-EMP report as per condition stipulated while taking EC vide letter dated 24.05.2022 for production capacity from 19.6 MTPA to 21 MTPA (Increase in extra 10% production capacity beyond the 40%) as per the O.M. dated 07.05.2022 In view of above, the project was deferred for submission of observation. | The Project proponent had submitted the EIA-EMP for a production capacity of 21 MTPA and the same is under preparation and will be completed after baseline data monitoring of Post Monsoon period from Oct'2022 to Dec'2022. The EIA-EMP will be submitted in Jan' 2023. An undertaking to this effect has been enclosed.  |

**38.6.4** *The EAC after detail deliberation observed that the Kulda opencast mine project has requested for amendment in Environmental Clearance letter dated 14.02.2022 & 24.05.2022 for the relaxation of road transportation due non-implementation of in-pit conveyor with silo loading system till Railway siding. It has been observed that PP has repeatedly failed to comply the said conditions and applying for expansion under Ministry's OM by referring shortage of Coal in the Country.*

*EAC during site visit to one of mines of M/s MCL in the same area observed high dust pollution in ambient air and also their pollution due to road transportation from coal mine. Still there is lack of implementation of EC conditions to reduce ambient air concentration. EAC expressed displeasure and highlighted the non-seriousness of PP to implement the conditions to reduce the dust pollution. The instant condition of implementing conveyor system was stipulated in EC of 2018 and however till date PP has not initiated any work on ground particularly for in-pit conveyor system. EAC expressed that such project should not be considered any further expansion in capacity till project comply the EC*

conditions satisfactory. Only Sardega siding and its conveyor system 2-3 km away from the said mine is being constructed instead of in-pit conveyor system till railway siding with silo loading system. The Committee opined that it is very disheartening to see being Mini-Ratna/Public Sectors company unable to complying with the conditions. The Committee expressed that Ministry of Coal and MoEF&CC may take note of this negligence for delay in compliance.

EAC in its previous meeting also expressed its dissatisfaction, however PP is not able show any commitment on the ground. However, now that the PP has submitted an undertaking vide letter dated 15.12.2022 by Director (Technical/Project and Planning) of M/s MCL that construction of Rapid loading system with coal conveying arrangement will be completed by 31.10.2023.

However, the Committee emphasized that the In-pit belt Conveyor system within the Kulda opencast Mine lease area has to be functional separately with the latest technology before submitting any type of further expansion application on PARIVESH portal.

In view of the above, Committee extended the timeline from December, 2022 to October, 2023 for road transportation and for commencement of In-pit belt Conveyor system with the latest technology. No amendment has been provided for the Specific Condition (ix). Accordingly, SPCB shall not grant CTO for road transportation after October, 2023.

Based on the above discussion, EAC **recommended** the amendment in Environmental Clearance dated 14.02.2022 & 24.05.2022 for the Kulda Opencast Coal Mine Project with production capacity from 19.6 MTPA to 21 MTPA in Mine Lease area of 634.205 ha of M/s Mahanadi Coalfields Limited located at village Balinga, Tumulia, Siarmal, Kulda & Bankibahal, Tehsil Hemgir, District Sundargarh (Odisha) under EIA notification, 2006 and subsequent amendments/circulars thereto subject to the compliance of the following terms & conditions / specific conditions for environmental safeguards:

- i. No further expansion in capacity shall be granted to the project till the compliance of in-pit conveyor and silo loading system till railway siding is implemented.
- ii. PP shall implement in-pit conveyor system with silo loading facility till railway siding and No road transportation shall be allowed after October, 2023 and accordingly, SPCB shall not grant CTO for road transportation after October, 2023.
- iii. PP shall deploy only 40-50 tonnes covered trucks/dumper to reduce fleet size till Rapid loading system and conveyor belt system is commenced. (i.e., till October, 2023).
- iv. PP shall submit the action plan for In-pit belt Conveyor system Kulda OC mine separately to IRO and implement the same before submitting any type of application on PARIVESH portal before October, 2023. SPCB shall not grant CTO for non-implementation of In-pit belt conveyor system after October, 2023.
- v. All other terms and conditions as prescribed in Ministry's letter dated 22<sup>nd</sup> March, 2018, 10.01.2020 02.03.2021, 14.02.2022 and 24.05.2022 needs to be complied by PP.

## **Agenda No. 38.7**

**Expansion of Belpahar Opencast Coalmine project with production capacity from 6 MTPA to 9 MTPA in the Mine Lease area of 1503.683 ha (1444.053 ha + 59.63 ha Outside ML area) of M/s Mahanadi Coalfields Limited located in Ib Valley Coalfields, in villages Darlipali Chharla, Tehsil Banaharpali, District Jharsuguda (Odisha) – Extension of Validity of Environmental Clearance dated 02.01.2015 and 15.01.2021 - reg.**

**[Online Proposal No. IA/OR/CMIN/294376/2022; File No. J-11015/189/2008-IA.II (M)]**

**38.7.1** The proposal for extension of validity of Environmental Clearance vide dated 02.01.2015 and 15.01.2021 for Expansion of Belpahar Opencast Coalmine project with production capacity from 6 MTPA to 9 MTPA in the Mine Lease area of 1503.683 ha (1444.053 ha + 59.63 ha Outside ML area) of M/s Mahanadi Coalfields Limited located in Ib Valley Coalfields, in villages Darlipali Chharla, Tehsil Banaharpali, District Jharsuguda (Odisha).

**38.7.2** The EAC after detail deliberation observed the following:

- i. The environmental clearance was obtained vide Ministry's letter no. J-11015/189/2008-IA.II(M) dated 22.01.2015 further EC was issued vide Ministry's letter no. J-11015/189/2008-IA.II(M) dated 15.01.2021 for life of mine till 2023 in the mine lease area of 1503.683 Ha.
- ii. The 2<sup>nd</sup> Addendum to Mining plan (including Progressive Mine closure plan) has been approved by MCL Board vide Ref. no. MCL/SBP/CS/BD-249/Exct/2022/12673 dated 26-07-2022.
- iii. EAC observed that the Life of the mine has been increased for 1 year i.e. till 2023-24.
- iv. The Stage II FC has been obtained for the Forest lands of 103.52 ha vide dated 02.06.2000 and for 19.70 ha dated 15.09.2014.
- v. No National Parks, Wildlife Sanctuaries and Eco-Sensitive Zones have been reported with 10 km boundary of the project.
- vi. The NOC for withdrawal of Ground water has been obtained from the Central Ground Water Authority vide letter No. CGWA/NOC/MIN/ORIG/2020/9025 dated 26-11-2020 and the NOC will be valid till 25.11.2022.
- vii. A case has been registered at Sub-Divisional Judicial Magistrate, Jharsuguda vide ref. no. 2(C) CC NO-170 of 2013.

**38.7.3** *The EAC, after detail deliberation observed that instant coal mine has extracted lesser coal w.r.t. granted EC capacity of 9 MTPA. The shortfall noted in coal production for the year 2018 to 2022 is 6.52 MTPA, therefore the life of mine increased for one year i.e till 2023-24 and accordingly addendum Mining plan has been prepared and submitted. It was also noted that the existing configuration (area and capacity) will remain same.*

*In view of the above, Committee agreed to extend the validity of Environmental Clearance for another one year i.e. till 2024 and the project proponent committed that evacuation of mineral will be completed before 2024 or 30 years whichever is earlier as per the EIA Notification, 2006.*

Based on the above discussion, EAC **recommended** the extension of validity of Environmental Clearance vide dated 02.01.2015 and 15.01.2021 for Expansion of Belpahar Opencast Coalmine project with production capacity from 6 MTPA to 9 MTPA in the Mine Lease area of 1503.683 ha (1444.053 ha + 59.63 ha Outside ML area) of M/s Mahanadi Coalfields Limited located in Ib Valley Coalfields, in villages Darlipali Chharla, Tehsil Banaharpali, District Jharsuguda (Odisha) under EIA notification, 2006 and subsequent amendments/circulars thereto.

- (i) PP shall submit the Mine Closure report to Ministry's IRO within six months and further quarterly progress shall also be submitted to IRO.
- (ii) PP shall obtain Certified Compliance Report from Ministry's IRO within six months of issue of this letter. Any non-compliance highlighted shall be completed before the Mine closure procedure.

**Agenda No. 38.8**

**Expansion of Garjanbahal OC mine for increase in production capacity from 13.0 MTPA to 15.6 MTPA (Peak) in land area of 653.83 ha of M/s Mahanadi Coalfields Limited located at Villages Garjanbahal, Balinga, Karlikachhar, Bankibahal, Bangurkela, Tumulia. Tehsil Hemgir, District Sundargarh (Odisha) – Reconsideration for Amendment in Environmental Clearance letter dated 14.02.2022 - reg.**

**[Online Proposal No. IA/OR/CMIN/268128/2022; File No. J-11015/159/2015- IA-II (M)]**

**38.8.1** The proposal is for amendment in Environmental Clearance vide letter dated 14.02.2022 for Expansion of Garjanbahal OC mine for increase in production capacity from 13.0 MTPA to 15.6 MTPA (Peak) in land area of 653.83 ha of M/s Mahanadi Coalfields Limited located at Villages Garjanbahal, Balinga, Karlikachhar, Bankibahal, Bangurkela, Tumulia, Tehsil Hemgir, District Sundargarh (Odisha).

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

The instant project of amendment in Environment Clearance vide letter dated 14.02.2022 for specific conditions no iv, viii, xii and xiii which inter-alia given below:

| <b>Specific Condition no.</b> | <b>EC condition for Amendment</b>   |
|-------------------------------|---|
| Specific Condition (iv)       | PP shall implement in-pit conveyor system with silo loading facility till railway siding and No road transportation shall be allowed after December, 2022 and accordingly, SPCB shall not grant CTO for road transportation after December, 2022.                       |
| Specific Condition (viii)     | PP should not transport coal through road passing through any village and further ensure that its consumers of coal are also not using village road and passing through any sensitive location such as schools, hospitals etc. PP shall take legal undertaking from its |

|                           |   |
|---------------------------|---|
|                           | consumers accordingly.  |
| Specific Condition (xii)  | PP shall commence Rapid loading system with conveyor belt system by December, 2022 and no road transportation shall be carried out by road towards Sardega siding after December, 2022. |
| Specific Condition (xiii) | PP shall deploy only 40-50 tonnes covered trucks/dumper to reduce fleet size till Rapid loading system and conveyor belt system is commenced (i.e. till December, 2022).                |

Earlier, the project was considered and deliberated by EAC in 37<sup>th</sup> meeting held on 17-18 November, 2022 for grant of Amendment in Environmental Clearance for Expansion of Garjanbahal OC mine and the proposal was deferred for want of additional information. The compliance was submitted by project proponent on 05.12.2022 and accordingly is being considered by EAC in its 38<sup>th</sup> meeting held during 14-15 December, 2022. Accordingly, EAC noted the submission of project proponent as detailed below:

| Sr. No. | Observation of EAC   | Reply of Project Proponent  |
|---------|--|---|
| 1       | PP shall submit the list of contractors employed with their details such as Defense/widows/other private players etc. using low capacity trucks against the total numbers and worked out the use of higher fleet size. | The PP has submitted that the total 35 numbers of low-capacity trucks engaged for coal transportation from in-pit of Garjanbahal OCP till Sardega Siding belongs to either Ex-Service Men/Dependent/Widow in ESM Contracts & 18 number belongs to PAP's in PAF's Contracts and 17 numbers belongs to Private Players. The list of contractors employed for transportation of coal from Garjanbahal OCP to Railway Sidings with complete details has enclosed. |
| 2       | PP shall submit detailed action plan along with legal undertaking to comply the conditions of inpit conveyor system with further squeezed timeline.  | The PP has submitted the details for the compliance of the condition i.e. for construction of Coal Conveying System.  |

**38.8.4** *The EAC, after detail deliberation observed that PP has requested for the relaxation of road transportation instead of implementing the EC conditions. EAC expressed displeasure and highlighted the non-seriousness of PP to implement the conditions to reduce the dust pollution. The instant condition of implementing conveyor system was stipulated in EC of 2017 and however till date PP has not initiated any work on ground. EAC expressed that such project should not be considered any*

*further expansion in capacity till project comply the EC conditions satisfactory. Only Sardega siding and its conveyor system 2-3 km away from the said mine is being constructed instead of in-pit conveyor system till railway siding with silo loading system. The Committee expressed that it is disheartening to see Mini-Ratna/Public Sector company, unable to comply with the conditions. Ministry of Coal and MoEF&CC may take note of this negligence for delay in compliance toward the compliance of the conditions.*

*With regard to compliance of observation of last EAC meeting, PP has submitted a list of contractors employed and the committee desired to include some more manpower equipped with the latest technology so that work will be completed on or before assigned date.*

*Further, now PP has submitted an undertaking vide letter dated 15.12.2022 by Director (Technical/Project and Planning) of M/s MCL that construction of Rapid loading system with coal conveying arrangement at Sardega Siding will be completed by 31.10.2023.*

*The Committee emphasised that the In-pit belt Conveyor system within the Garjanbahal OC mine lease area has to be functional separately with the latest technology before submitting any type of application on PARIVESH portal.*

*In view of the above, Committee extended the timeline from December, 2022 to October, 2023 for road transportation and for commencement of In-pit belt Conveyor system with the latest technology. No amendment has been provided for the Specific Condition (viii). Accordingly, SPCB shall not grant CTO for road transportation after October, 2023.*

*Based on the above discussion, EAC **recommended** the amendment in Environmental Clearance dated 14.02.2022 for the Garjanbahal OC mine Project with production capacity from 13.0 MTPA to 15.6 MTPA in Mine Lease area of 653.83 ha of M/s Mahanadi Coalfields Limited located at Villages Garjanbahal, Balinga, Karlikachhar, Bankibahal, Bangurkela, Tumulia. Tehsil Hemgir, District Sundargarh (Odisha) under EIA notification, 2006 and subsequent amendments/circulars thereto subject to the compliance of the following terms & conditions / specific conditions for environmental safeguards:*

- i. No further expansion in production capacity to this project shall be granted till the compliance of EC conditions*
- ii. PP shall implement in-pit conveyor system with silo loading facility till railway siding and No road transportation shall be allowed after October, 2023 and accordingly, SPCB shall not grant CTO for road transportation after October, 2023.*
- iii. PP shall deploy only 40-50 tonnes covered trucks/dumper to reduce fleet size till Rapid loading system and conveyor belt system is commenced. (i.e., till October, 2023).*
- iv. PP shall submit the action plan for In-pit belt Conveyor system for Garjanbahal OC mine separately to IRO and implement the same before submitting any type of application on PARIVESH portal before October, 2023 and accordingly, SPCB shall not grant CTO for non-implementation of In-pit belt conveyor system after October, 2023.*
- v. All other terms and conditions as prescribed in Ministry's letter dated 9<sup>th</sup> November, 2017 and 14.02.2022 needs to be complied by PP.*

### **Agenda No. 38.9**

**Banardih Coal Mining Project of 12 MTPA (Peak) in mine lease area of 1818.10 ha of M/s. Patratu Vidyut Utapdan Nigam Limited (PVUNL) located in villages Ate, Banardih, Bari, Barwadih, Jagaldaga, Rampur, Sabano, Surli, Tota and Udaypura in Tehsil Latehar & Chandwa, District Latehar (Jharkhand) - For Environmental Clearance reg.**

**[Online Proposal No. IA/JH/CMIN/407889/2022; File No. J-11015/13/2020-IA.II(M)]**

**38.9.1** The proposal is of Environmental Clearance for Banardih Coal Mining Project of 12 MTPA (Peak) in mine lease area of 1818.10 ha of M/s. Patratu Vidyut Utapdan Nigam Limited (PVUNL) located in villages Ate, Banardih, Bari, Barwadih, Jagaldaga, Rampur, Sabano, Surli, Tota and Udaypura in Tehsil Latehar & Chandwa, District Latehar (Jharkhand).

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

Earlier, the instant proposal was considered by EAC in its 31<sup>st</sup> meeting held on 9<sup>th</sup> June, 2022 for grant of Environment Clearance. EAC found various discrepancy and proposal was returned in present form due to the incomplete application submitted prematurely by compromising proper documentation and compliance of ToR, which results into weak presentation. EAC observed that the committee had expressed displeasure and cautioned M/s Vimta Lab for not repeating this again in the 31<sup>st</sup> Meeting.

Further, it was noted that EIA/EMP was prepared by M/s Vimta Labs for this instant project and Ministry has now debarred M/s Vimta Labs vide its letter dated 12<sup>th</sup> December, 2022 for appearing before EAC/SEAC due to various lacunae in submission of EIA/EMP till further orders in one of the case and requested NABET to further debar the M/s Vimta Labs.

**38.9.3** *The EAC, after detailed deliberation observed that since the EIA consultant for this project is M/s Vimta Labs which has been debarred by Ministry for appearing before EAC and requirement of EIA Consultant is mandatory during presentation of Environment Clearance. EAC desired that Project Proponent may engage some other NABET approved EIA consultant for Category A projects. The presence of consultant is required to justify the data collected for baseline and impact assessment of the project. The new consultant should be submit the undertaking by vetting the data collected by earlier consultant as per Ministry's OM.*

*In view of above, the project was **returned** in present form to be considered afresh.*

### **Agenda No. 38.10**

**Radhikapur (West) Coal Mine Block with a production capacity of 6.0 MTPA in the project area of 1048 ha of M/s Vedanta Limited located at Villages Barapada, Kusakila, Naupada, Kusakila Jungle Bar, Jhintipal, Putagadia, Balipata, Kosala, Tehsil Chhendipada, District Angul (Odisha) - For Environmental Clearance - reg.**



**[Online Proposal No. IA/OR/CMIN/408692/2022; File No. J-11015/30/2011-IA-II(M)]**

**38.10.1** The proposal for Environmental Clearance for Radhikapur (West) Coal Mine Block with a production capacity of 6.0 MTPA in the project area of 1048 ha of M/s Vedanta Limited located at Villages Barapada, Kusakila, Naupada, Kusakila Jungle Bar, Jhintipal, Putagadia, Balipata, Kosala, Tehsil Chhendipada, District Angul (Odisha).

**38.10.2** 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. The project area is covered under Survey of India Topo Sheet No. Core zone: F45S13; Buffer zone: F45M16, F45S13, F45N4 & F45T1 and is bounded by the geographical coordinates ranging from latitude 20°57'28"N to 20°59'42"N and longitude 84°51'00"E to 84°54'47"E.
- ii. Coal from this project will be used for Sale of coal, including sale to Affiliates and related parties, utilization of coal for any purpose including but not limited to captive consumption, coal Gasification, Coal Liquefaction.
- iii. Company is incorporated as Public Limited Company under Company's Act and no Joint venture cartel is formed.
- iv. Project does not fall in the Critically Polluted Area (CPA) where the MoEF&CC's vide its OM dated 13.01.2010 has imposed moratorium on grant of environment clearance.
- v. It is proposed to operate the Radhikapur (West) Coal Mine by opencast method of mining for which there is a potential of direct employment of 1188 persons and underground mining operation will require 514 persons. Therefore, a total of 1702 persons will be employed.
- vi. Socio-economic conditions of the nearby people will improve due to generation of direct-indirect employment besides opportunities/means as source of income. Infrastructure facilities i.e. Communication, transport etc will be improved. The mine shall be contributing to the State & Central Govt. exchequer by way of mining revenue (Premium/Revenue sharing Royalty, DMF, NMET etc.)
- vii. This is a Greenfield Coal Mining Project and process of obtaining EC is under process.
- viii. This proposal is for EC & ToR Letter was issued by MoEF&CC, New Delhi on 12.09.2022 and Application for EC was submitted on 30.11.2022.
- ix. This is an Auction Block, Total Lease Area is 1048 ha out of which 91.929 ha is Forest land, 226.0408 ha is Govt. Land and 730.030 ha is Pvt. Land. Mining Plan (Including Mine Closure Plan) has been approved by the Section Officer, Ministry of Coal, Government of India vide letter no. 13016/77/2006-CA-I(Part) dated 23.06.2011.
- x. The land usage pattern of the project is as follows:

**a. Pre-Mining Land use details (Area: In Ha)**

| S. No. | Particular        | Pvt. Land | Govt Land | Forest Land | Total Land |
|--------|-------------------|-----------|-----------|-------------|------------|
| 1.     | Habitation        | 42.41     | 22.21     | 0.00        | 64.62      |
| 2.     | Agricultural Land | 502.12    | 0.70      | 0.00        | 502.82     |

|              |                                    |               |               |              |                |
|--------------|------------------------------------|---------------|---------------|--------------|----------------|
| 3.           | Non-Agriculture Land               | 185.11        | 72.69         | 0.00         | 257.80         |
| 4.           | Water body (Pond, Nala, Well etc.) | 8.60          | 26.61         | 0.00         | 35.22          |
| 5.           | Temple / Worship place             | 0.04          | 0.71          | 0.00         | 0.75           |
| 6.           | Gochar                             | 0.03          | 73.74         | 0.00         | 73.77          |
| 7.           | Road                               | 0.22          | 22.33         | 0.00         | 22.55          |
| 8.           | Community Land                     | -             | 1.08          | 0.00         | 1.08           |
| 9.           | Samsana/ Cremation                 | -             | 4.59          | 0.00         | 4.59           |
| 10.          | Forest                             | -             | -             |              | 0.00           |
| 11.          | i. Bada jungle                     | -             | -             | 8.33         | 8.33           |
| 12.          | ii. Chhota jungle                  | -             | -             | 9.30         | 9.30           |
| 13.          | iii. Garmya jungle                 | -             | -             | 65.46        | 65.46          |
| 14.          | iv. Jungle                         | -             | -             | 1.70         | 1.70           |
| <b>Total</b> |                                    | <b>738.53</b> | <b>224.68</b> | <b>84.79</b> | <b>1048.00</b> |

**b. Post Mining Land use details: (Area: In Ha)**

| S. No.                  | Particular                                 | Area           | Plantation    | Void          | Public Use | Bund        | Undisturbed   |
|-------------------------|--|----------------|---------------|---------------|------------|-------------|---------------|
| 1.                      | Excavated Area                             | 750.92         | 596.81        | 154.11        | -          | -           | -             |
| 2.                      | OB dump                                    | 100.00         | 100.00        | -             | -          | -           | -             |
| 3.                      | Top Soil Stack                             | 5.00           | 5.0           | -             | -          | -           | -             |
| 4.                      | Raw Coal Stack                             | 7.0            | 7.0           | -             | -          | -           | -             |
| 5.                      | Facility Area including inclines and shaft | 10.0           | 7.0           | -             | 3.0        | -           | -             |
| 6.                      | Green belt                                 | 16.75          | 16.75         | -             | -          | -           | -             |
| 7.                      | Plantation on Un-worked Area               | 19.0           | 19.0          | -             | -          | -           | -             |
| 8.                      | Setting Pond                               | 5.50           | 5.5           | -             | -          | -           | -             |
| 9.                      | Road                                       | 12.00          | 8.0           | -             | 4.0        | -           | -             |
| 10.                     | Bund                                       | 15.7           | -             | -             | -          | 15.7        | -             |
| 11.                     | Magazine                                   | 0.20           | 0.2           | -             | -          | -           | -             |
| 12.                     | Undisturbed                                | 105.93         | -             | -             | -          | -           | 105.93        |
| <b>Total Block Area</b> |  | <b>1048.00</b> | <b>765.26</b> | <b>154.11</b> | <b>7</b>   | <b>15.7</b> | <b>105.93</b> |

*Note: The OC Mine exhausts at the end of 25<sup>th</sup> year and the OC Mine closure concludes at the end of 30<sup>th</sup> year. The above table shows position at the end of 52<sup>nd</sup> year when UG Mine closure also includes.*

- xi. Coal mine spreads over an area of 1048 ha. As per the initial exploration carried out, total geological reserves are 288.44 million tonnes and mineable reserves are about 251.104 million tonnes, out of which total extractable reserves by OC: 140.293 million tonnes & UG: 26.48 million tonnes; therefore, out of the total mineable reserves, 166.77 million tonnes of the reserves will be extractable. Percent of extraction is by OC: 70.05% & by UG: 52.07%.
- xii. There is total 6 no. of coal seams (OC: Seam IX, X & XI & UG: Seam IIIA, IIIE & VIIB) with maximum thickness 41.84 m in Seam IX. Grade of coal is E, F & G. Average ratio of OB/Coal is 4.19: 1.0 (Million CuM: Million Tonnes) while seam gradient is 4.5:1.
- xiii. Mining operations will be carried out by adopting opencast & underground both conventional fully mechanized mining methods. Mining will be done by mechanized opencast mining method with the use of surface Miner along with Shovel & Dumper combination and Mechanized Bord and Pillar Underground Mining with two Continuous Miner with Shuttle Cars.
- xiv. Life of Mine is 49 years (Opencast: 25 years and Underground 41 years) with proposed production capacity of 6.0 Million TPA. Opencast: 6.0 Million TPA from 5<sup>th</sup> to 10<sup>th</sup> year, Underground: Started from 11<sup>th</sup> year & from 13<sup>th</sup> year: 0.70 Million TPA, 13<sup>th</sup> year onwards: (Opencast: 5.30 Million TPA & Underground: 0.70 Million TPA).
- xv. There will be no internal dump. External dumping will be done in the southern portion of the block up to a height of 100 m during the mining. Later on, same will be stabilized by plantation. Hence, at conceptual stage there will be no active external dump.
- xvi. Total quarry area 750.92 ha area will be excavated out of which 596.81 ha will be backfilled & same will be rehabilitated by plantation/regressing; remaining 154.11 ha will be converted into water reservoir.
- xvii. For initial years, transportation to be carried out in Road-cum-Rail mode, with Rail Loading outside mining lease area. In later years, transportation will be through Jarapada Railway Siding which will be developed within the mining lease.
- xviii. Total area is 1048 ha out of which 750.92 ha will be excavated out of which 596.81 ha will be backfilled & same will be rehabilitated by plantation/regressing; remaining 154.11 ha will be converted into water reservoir. Total Greenbelt/Plantation will be covered over an area of 765.26 ha (Greenbelt: 16.75 ha, backfilled area: 596.81 ha, stabilization of external OB dump: 100 ha, reclamation of built-up area: 38.7 ha, stabilization of top soil stacking: 5.0 ha). Density of plantation would be 2500 trees / ha & survival rate should be maintained 90 to 95%. Native species will be planted in consultation with the local forest department. About 22.7 ha area is under the public use. Total 105.93 ha area will remain undisturbed.
- xix. Stage I forest clearance under the Forest (Conservation) Act, 1980 for diversion of 91.929 ha of Forest Land (including 4.957 ha safety zone) has been obtained vide letter no. 8-07/2014-FC dated 06.01.2022.

- xx. There is no National Park, wildlife sanctuaries and Eco-sensitive zones falls within 10 km boundary of the project. Around 11 Reserved Forest, 3 Protected Forest & 15 water bodies viz. 12 Nalla, 1 River, 1 Reservoir & 1 Dam fall within 10 km radius of the study area.
- xxi. There are 2 Schedule I species i.e. Sloth Bear & Indian Elephant found within the 10 km of the study area. Cost for the conservation plan is 2% of total project cost & letters for the same is enclosed with EIA/EMP Report.
- xxii. The ground water level has been reported to be varying between 2 to 7 m bgl during pre-monsoon and between 1 to 4 m bgl during post-monsoon. Total water requirement for the project is 1141 KLD.
- xxiii. Total water requirement is estimated as 1141 KLD. During initial stage, total water requirement is 179 KLD, out of which the estimated fresh water requirement for domestic/drinking purpose will be 97 KLD. NOC for 97 KLD of ground water has been obtained vide letter no. CGWA/NOC/MIN/ORG/2022/15183, dated 20.04.2022 from CGWA & same is valid up to 19.04.2024.
- xxiv. Public hearing for the project of 6.0 Million TPA was conducted on 30.11.2011 under the chairmanship of Sri Debraj Senapati, O.A.S. (S), Additional District Magistrate and Er. S. K. Sahu, Regional Officer, RO of SPCB. Major issues raised in the public hearing include Employment, Health Facilities, Infrastructure Development, Drinking Water Facilities, Afforestation etc.
- xxv. As per ToR, Advertisement for the public notice has been published on 28.09.2022 and accordingly two copies of representations were received from State Pollution Control Board to Vedanta Ltd. vide letter no. 21237/IND/II/NOC-MISC/289, dated 17.11.2022. According to written representations/issues received during the Public Consultation, action plan & physical targets has been prepared and incorporated in EIA/EMP Report.
- xxvi. Consent to Operate will be obtained from concerned authorities after grant of EC.
- xxvii. Singhoda Jhor passing adjacent in northeast side of ML boundary, at few points some part of the Singhoda Jhor fall just inside the ML boundary. Nuabanda nallah, which forms the eastern boundary of the block, flows into Singhoda Jhor at the north-eastern corner of the block. Same will not to be disturbed at any stage of mining.
- xxviii. Baseline Monitoring has been carried for Post Monsoon Season (Oct. to Dec., 2021). The results of ambient air quality monitoring data were found within prescribed limits which can be attributed to the specific local conditions during the day of sampling. Regular monitoring of ambient air quality will be carried out on fortnightly basis. The documented report will be submitted to IRO, CPCB, OSBCB & also to MoEF&CC along with half yearly EC compliance report.
- xxix. No Court cases, violation cases are pending against the project of the PP.
- xxx. The project does not involve violation of the EIA Notification, 2006 and amendment issued there under. The coal production will be started after obtaining Environment Clearance and other requisite consents from the concerned authorities.

- xxxi. The project involves 4647 project affected families out of which 3629 PAFs will be displaced. R&R of the PAFs will be done as per the provisions of Odisha Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation & Resettlement Rules, 2016.
- xxxii. Total cost of the project is Rs. 1241 Crore. Cost of production is Rs. 1460/tonne. CSR cost will be calculated as per the Company's Act. R& R cost is Rs. 1273.096 Crore. Environment Management Cost is Rs. 30 Crore and recurring cost: Rs. 1.28 crore/annum.

**38.10.3** The Committee during deliberations noted the following:

- i. The ToR has been obtained for the production capacity of 6.0 MTPA in the MLA of 1048 ha by M/s Vedanta Limited vide letter no. J-11015/30/2011-IA-II(M) dated 12.09.2022 with exemption Public Hearing. Public Notice was issued by Project Proponent as per grant of Terms of Reference. Earlier, Public hearing for the project of 6.0 MTPA was conducted on 30.11.2011.
- ii. Stage I FC obtained for the forest land of 91.929 ha vide letter no. 8-07/2014-FC dated 06.01.2022.
- iii. No National Park, wildlife sanctuaries and Eco-sensitive zones falls within 10 km boundary of the project.
- iv. The Sloth Bear & Indian Elephant (i.e. 2 Schedule I species) found within the 10 km of the study area. Total 2% of total project cost has been allocated for the conservation plan.
- v. The ground water level has been reported to be varying between 2 to 7 m bgl during pre-monsoon and between 1 to 4 m bgl during post-monsoon. Total water requirement for the project is 1141 KLD.
- vi. NOC for 97 KLD of ground water has been obtained vide letter no. CGWA/NOC/MIN/ORG/2022/15183, dated 20.04.2022 from CGWA & same is valid up to 19.04.2024.
- vii. It was also observed that 3629 project affected families will be displaced due to mining activities out of 4647 project affected families. R&R for the same will be completed under Odisha Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation & Resettlement Rules, 2016.

**38.10.4** *The EAC after detail deliberation noted that the instant proposal is a Green field project. It was observed that ToR granted to the project was with exemption of PH since PH was conducted before deallocation of the coal block for grant of EC. PH was exempted due to no change in area and proposed capacity on which EIA/EMP and public hearing submitted However, PP has submitted the action plan in the context of the issue of public notice. Further, it was observed that Approved Mine Plan submitted by PP was granted to earlier allottee and has been approved by Ministry of Coal dated 23<sup>rd</sup> June, 2011. It was further observed that PP shall submit Letter of Intent to the Ministry's IRO before commencement of Mining Operations. PP informed that inlieu of Wildlife Management Plan, 2% of total cost is being submitted to State Forest Department. PP has submitted*

*the request to issue demand notice vide its letter dated 27<sup>th</sup> September, 2020 to submit the 2% amount as per guidelines issued by FC Division.*

*Further, it was noted that the Singhoda Jhor flowing adjacent to the Mine lease boundary as well as at few points it flows inside the Mine lease area. Therefore, committee desired that the adjacent mining activity should be prohibited and in order to protect the stream PP shall make all possible arrangement. For purpose of Coal transportation, the PP should make dedicated bypass concrete road equipped with the sprinkling system after every 100m. The Committee emphasised to provide all basic facilities like road, multispecialty hospital facilities, Library facility, Digital study centre and Training facility center to improve skill among villagers. In order to curb the pollution due to mining activity, the committee emphasized to implement 20% of mining machineries & trucks based on LNG/CNG. EAC emphasized that the PP shall create the rain water harvesting system with the help of existing natural pond lying inside the Mine lease area, it will improve the rate of Ground water recharge. The rejuvenated pond water shall be distributed among the villagers with the proper pipeline system and the committee will encourage if the same pond water will be used for the mining activity. The EAC suggested for monitoring of air quality through Continuous Automatic Air Quality Monitoring Station (CAAQMS) at mine site, near to village area and at its vicinity.*

*Based on the above, EAC **recommended** the proposal for grant of Environmental Clearance for Radhikapur (West) Coal Mine Block (Opencast cum Underground) with a production capacity of 6.0 MTPA in the project area of 1048 ha of M/s Vedanta Limited located at Villages Barapada, Kusakila, Naupada, Kusakila Jungle Bar, Jhintipal, Putagadia, Balipata, Kosala, Tehsil Chhendipada, District Angul (Odisha) under the provisions of EIA Notifications, 2006 and its amendments therein with following specific conditions;*

***Specific condition***

- i. PP to obtain CTE/ CTO from SPCB for production capacity of 6.0 MTPA for opencast and underground as proposed by PP.*
- ii. PP shall submit Letter of Intent issued by State Government to Ministry's IRO within six months from the date of issue of Environment Clearance letter*
- iii. PP shall submit proposed amount for Wildlife conservation plan and soil moisture conservation plan within in six months from the date of issue of Environment Clearance.*
- iv. PP shall prepare the detail plan for rain water harvesting system with the help of existing natural pond lying inside the Mine lease area.*
- v. PP shall acquire land area of 70 ha for the purpose of gochar/grazing and following the guidelines/order of Hon 'ble Supreme Court w.r.t gochar land within 3 years of commencement of mining operation.*
- vi. In addition to manual monitoring, PP to install the Continuous Automatic Air Quality Monitoring Station (CAAQMS) at suitable location preferably village side with consultation of SPCB. The real time data so generated shall be uploaded on company website. In addition, data should also be displayed digitally at entry and exit gate of mine lease area for public display.*

- vii. *PP shall prepare plan for the protection of Singhoda Jhor stream and its connecting streams flowing adjacent to the Mine lease boundary and inside the Mine lease area. No Nallah/Stream to be diverted. PP to take adequate measures for its environment/natural flow and also to ensure that no untreated mine water shall enter into this stream and proper garland drain shall be made all along the stream to catch mine water. PP shall conduct mining operation with safe distance of 100 mts from Singhoda Jhor/stream and Nuabanda Nallah/stream.*
- viii. *PP shall obtain No Objection Certificate from Central Ground Water Authority before intersection of aquifer/Ground water during mining operations.*
- ix. *PP shall implement 20% of mining machineries & trucks/dumpers operating with LNG/CNG/Electrical in order to curb the pollution due to mining activity.*
- x. *PP shall provide basic facilities to local people like road, multispecialty hospital for 24X7, Library, Digital study centre and Training facility centre for improving skills among available potential manpower. The said infrastructures shall be implemented within 3 years from the commencement of mining operations and within 10 km of project area.*
- xi. *PP shall develop the green belt plantation with aim of 2500 trees / ha within the proposed area of plantation in 2 years & their survival rate should be 90 to 95%. The local species shall be use for Plantation in consultation with the local forest department.*
- xii. *PP shall complete the in-pit belt conveyor system within the Mining lease area and railway siding system from mining site shall be completed by 2025. Further no road transportation shall be allowed by the State Government beyond this period.*
- xiii. *PP shall implement the proposed EMP budget of Rs. 30 Crore as capital expenditure on pollution control measures with annual recurring cost of Rs. 127.49 Lakh.*
- xiv. *PP shall install fixed fog cannon (mist sprayer) and fixed sprinkler 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.*
- xv. *PP shall construct a pucca road to maintain the safety of people residing nearby along the transportation route with plantation on either side of the road.*
- xvi. *PP shall deploy only 40-50 tonnes covered trucks/dumper to reduce fleet size till conveyor system, silo/Rapid loading system and railway siding is implemented i.e. till 2025.*
- xvii. *PP shall use only surface miner for mining operation/coal extraction instead of shovel dumper method.*
- xviii. *PP shall conduct third party audit of compliance of EC condition at an interval one year and its report shall be submitted to IRO, MoEF&CC.*
- xix. *The status of mine closure activities must be included in every six months compliance report submitted to the state pollution control board and IRO.*
- xx. *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.*

- xxi. *PP should make dedicated bypass concrete road equipped with the sprinkling system after every 100m within 1 year for transportation and no transportation shall be done from village road and near to the habitation.*
- xxii. *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.*
- xxiii. *PP to provide bio toilets to the villages located within the study areas within 1 year from the grant of this EC.*
- xxiv. *PP to fulfill all the commitment made in the minutes of public hearing to address the issues raised therein in a time bound manner and a progressive report to be furnished to IRO in every six monthly as compliance report.*
- xxv. *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.*
- 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 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 at site which should comprise of Environment Engineers, Laboratory chemist and staff for monitoring of air, water quality parameters on routine basis instead of engaging environment monitoring laboratories/consultants. Any non- compliance or infringement should be reported to the concerned authority.*
- xxviii. *PP to implement the recommendation of land subsidence study carried out for underground mine and report shall be submitted to IRO in every six monthly report*
- xxix. *PP to obtain the star rating as per the guidelines of Ministry of Coal within 3 years of commencement of mining operations.*
- xxx. *Hon'ble Supreme Court in an Writ Petition(s) Civil No. 114/2014, Common Cause vs Union of India & Ors vide its judgement dated 8th January, 2020 has directed the Union of India to impose a condition in the mining lease and a similar condition in the environmental clearance and the mining plan to the effect that the mining lease holders shall, after ceasing mining operations, undertake re-grassing the mining area and any other area which may have been disturbed due to their mining activities and restore the land to a condition which is fit for growth of fodder, flora, fauna etc. Compliance of this condition after the mining activity is over at the cost of the mining lease holders/Project Proponent". The implementation report of the above said condition shall be sent to the Regional Office of the MoEF&CC.*



## **Agenda No. 38.11**

**Dhirauli Coal Mining Project of Open cast cum Underground of 6.5 MTPA (5 MTPA Open Cast & 1.5 MTPA Underground) in Mine Lease Area of 2672 ha by M/s Stratatech Mineral Resources Private Limited (SMRPL) located at villages Dhirauli, Phatpani, Sirswah, Amdand, Jhalari, Amraikhoh, Bansibridha, and Belwar, Teshil Sarai, District Singrauli, (Madhya Pradesh) - For Amendment of Terms of Reference dated 03.08.2021 reg.**

**[Online Proposal No. IA/MP/CMIN/293924/2022; File No. IA-J-11015/49/2021-IA-II(M)]**

**38.11.1** The proposal for Amendment of Terms of Reference dated 03.08.2021 for Dhirauli Coal Mining Project of Open cast cum Underground of 6.5 MTPA (5 MTPA Open Cast & 1.5 MTPA Underground) in Mine Lease Area of 2672 ha by M/s Stratatech Mineral Resources Private Limited (SMRPL) located at villages Dhirauli, Phatpani, Sirswah, Amdand, Jhalari, Amraikhoh, Bansibridha, and Belwar, Teshil Sarai, District Singrauli, (Madhya Pradesh).

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

The proposal is for amendment in ToR granted by Ministry particularly regarding specific conditions (ii) which inter-alia states as given below:

*“As suggested by EAC, no diversion of Hurdul Source Stream shall be allowed and the same shall be proposed in EIA study with appropriate mining methods to recover the coal in river catchment so that biodiversity in the area by source stream could be maintained.”*

PP has examined alternate mining methods to recover the coal in the catchment area. However, it has been concluded that only Open Cast method is technically and economically viable mining method. The opencast mining method proposed in approved Mining Plan has been done after exploring all options and Hurdul nala diversion as an integral part to implement the Mining plan and Mine Closure Plan method which was approved by Ministry of Coal due the following reasons: • Hurdul nala and its tributary covers an area of 2.4 sq km out of 20.96 sq km of quarry area. Presently mining is proposed as single quarry operation which is the only feasible option to operate this block as opencast mining. Total 186 MT coal extraction is estimated in single quarry / open cast operation • Coal seams below the Hurdul nala catchment occurs within block from 80-150 m depth range which needs to be mined by open cast method only as mining through underground means on the Hurdul Nala's catchment area will pose high risk of subsidence making it technically unfeasible and unsafe due to potential danger of subsidence, eventually there will be huge safety risk due to inundation.

The Hydrological study for estimation of peak flood runoff for Hurdul nala watershed inclusive micro watershed of external area of mine has been also studied. Request letter for diversion of hurdul nala along with hydrological study report of hurdul nala was submitted to Water Resource Department (WRD), Govt. of M.P. for permission vide letter dated 3rd January 2022. The Hydrological study Report for nala diversion was approved by Chief Engineer, Water Resource Dept. (WRD), Govt. of Madhya Pradesh vide letter dated 19.04.2022

Accordingly, Diversion of Hurdul nala is proposed from eastern side of block boundary (flowing northern side) which will join Bardiya/Jharia Nala a tributary of Hurdul Nala. In this way complete external surface runoff will go into the same drainage density. In view of above, following has been requested by Project Proponent:

*“Diversion of Hurdul source stream shall be allowed alongside the north-eastern boundary of Coal block and then to be merged in Bardiya/Jharia Nala a tributary of Hurdul Nala at the downstream end, with prior written permission from Water Resources Department, Govt. of MP to recover Coal in river catchment area.”*

**38.11.3** *The EAC after detail deliberation observed the proposed diversion plan the Hurdul Stream will join Bardiya/Jharia Stream a tributary of Hurdul Stream in the north-eastern side of the Mine lease area. Further, it was observed that since Hurdul Stream is passing in the middle of mine lease area, there is chances of water pollution during mining operations. It was further discussed that PP shall not divert the north eastern stream passing in the mine lease but strengthen it and leave 100 mts all along the north eastern stream and diverted Hurdul Stream from the source.*

*Based on the above discussion and after exploring all possible option the EAC **recommended** the amendment of specific condition no. (ii) of the ToR Letter dated 03.08.2021 for Dhirauli Coal Mining Project of Open cast cum Underground of 6.5 MTPA (5 MTPA Open Cast & 1.5 MTPA Underground) in Mine Lease Area of 2672 ha by M/s Stratatech Mineral Resources Private Limited (SMRPL) located at villages Dhirauli, Phatpani, Sirswah, Amdand, Jhalari, Amraikhoh, Bansibridha, and Belwar, Teshil Sarai, District Singrauli, (Madhya Pradesh) under the provisions of EIA Notifications, 2006 and its amendments therein with the following conditions:*

- i. PP may divert the Hurdul stream after taking all possible precautions in order to catch natural flow of water so that biodiversity in the area could be maintained.*
- ii. PP shall not divert the north eastern stream (Bardiya/Jharia Stream) and leave 100 mts of width on both side for safety embankment and dense tree plantation.*
- iii. PP shall implement the Report on Hydrology prepared by Srushti Seva Private Limited for completion of the diversion of Hurdul Stream.*
- iv. PP shall plan the greenbelt development all along the mining boundary as well as on the diverted route of nallah.*

### **Agenda No. 38.12**

**Expansion of Karo Opencast Coal mining project from 1.50 MTPA to 11 MTPA (Normative) /15 MTPA (Peak) and setting up Karo Washery of 7 MTPA by M/s Central Coalfields Limited in a total area of 526.32 ha located at villages Karo, Amlo, Kargali & Baid Karo, District Bokaro (Jharkhand) – For Amendment in Environmental Clearance dated 27.12.2019 – reg.**

**[Online Proposal No. IA/JH/CMIN/294725/2022; File No. 23-69/2018-IA.II(M).V]**

**38.12.1** The proposal is for Amendment in Environmental Clearance letter dated 27.12.2019 for Expansion of Karo Opencast Coal mining project from 1.50 MTPA to 11 MTPA (Normative) /15

MTPA (Peak) and setting up Karo Washery of 7 MTPA by M/s Central Coalfields Limited in a total area of 526.32 ha located at villages Karo, Amla, Kargali & Baid Karo, District Bokaro (Jharkhand).

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

The instant proposal for amendment in Environment Clearance specific condition (xxii) which inter-alia as given below:

*“Coal transportation from mine to railway siding by road is permitted for 3 years with covered trucks only. After that coal shall be transported from mine to railway siding by belt conveyor only. Necessary Environmental clearance shall be obtained from MoEF&CC in this regard.”*

PP has submitted that the instant project was linked with coal washery however, as per S.O. 1561(E) Dated: 20.05.2020, Ministry has removed the mandatory requirement of coal washing for thermal power plants and issued a fresh rule for use of coal by Thermal Power Plants, without stipulations as regards ash content or distance. Accordingly, PP has decided not to construct the non-coking coal washery for the project. Accordingly, the lay-out of the proposed belt –conveyor has also been revised.

In view of above, PP has requested for amendment in existing Environment Clearance of Karo OCP for dropping the construction of the proposed washery, revising layout of the belt-conveyor and extension in timeline for construction of belt-conveyor for additional three years as per the revised layout.

Due to removal of washery from the project, Forest land of 24.82. Ha (FC requirement for the washery as per earlier EC) will now be kept intact and will be developed as green zone for the project. The total land requirement was 526.32 Ha out of which 304.10 Ha is Forest land. Out of 304.10 Ha, Stage-II FC has been granted for 77.43 ha forest land diverted vide letter number: F.No.8-22/2003-FC Dated: 31.03.2004. For balance area of 226.67 Ha, Stage I FC granted on 24.12.2018 vide letter no: F.No.8-25/2009-FC. Stage-II FC is under process

**38.12.3** *The EAC after detail deliberation noted that the construction work for Karo railway siding and Belt Conveyor along with Silo has been delayed due to re-orientation of the existing layout. The EAC noted that the mandatory requirement of coal washing for thermal power plants has been removed vide Ministry’s notification dated 20.05.2020 which results into change in the complete layout plan. It was further observed that though EC has been granted for 11 MTPA to the project, the achieved production capacity in last three is less than 3.5 MTPA, accordingly EAC desired that to allow road transportation, PP shall limit its production upto 3.5 MTPA only till the implementation of conveyor system till railway siding.*

*EAC has taken cognizance of undertaking submitted by Director M/s CCL vide its letter Ref No-CCL/DT(P&P)/2022/727 dated 16th December, 2022 stating that work of Karo Railway siding and Belt Conveyor along with silo shall be completed by 26.12.2024 i.e within next 2 years time.*

*Based on the above discussion EAC **recommended** the proposal for Amendment in Environmental Clearance letter dated 27.12.2019 for Expansion of Karo Opencast Coal mining project from 1.50*

*MTPA to 11 MTPA (Normative) /15 MTPA (Peak) and setting up Karo Washery of 7 MTPA by M/s Central Coalfields Limited in a total area of 526.32 ha located at villages Karo, Amlo, Kargali & Baid Karo, District Bokaro (Jharkhand) under the provisions of EIA Notifications, 2006 and its amendments therein with following specific conditions;*

- i. PP shall install the mist or Jet spray system at fix interval on the road for dust suppression.*
- ii. No Coal Washery shall be implemented as proposed by PP, if incase, PP proposes to implement coal washery, fresh proposal of Environment Clearance shall be submitted.*
- iii. PP shall limit the production upto 3.5 MTPA for next two years till the implementation of the said EC condition and SPCB shall not grant CTO beyond 3.5 MTPA.*
- iv. PP shall submit Certified Compliance report from Ministry's IRO after 2 years to the Ministry for checking satisfactory compliance of EC conditions.*
- v. PP shall complete the work of Karo railway Siding and Belt Conveyor along with Silo by December, 2024. No Road transportation will be allowed after the completion of the work of Railway Siding, and accordingly SPCB shall not grant Consent to Operate after December, 2024.*
- vi. PP shall increase the Green cover along the road and in the nearby vicinity of mine lease area.*
- vii. PP shall develop Sal nursery of 5 ha in the project area on reclaimed land till December, 2024.*
- viii. As proposed by PP, Forest land of 24.82. Ha (FC requirement for the washery as per earlier EC) will now be kept intact and will be developed as green zone for the project. No tree cutting shall be done in this said area and the forest area shall be handed/surrendered over to Forest Department (if it is not coal bearing area)*
- ix. Other and waste land of about 88 ha in the project area (if not being used and not having any coal reserve), shall be developed as dense greenbelt within 2 years.*

### **Agenda No. 38.13**

**Parsa East and Kanta Basan (PEKB) Opencast Coal Mine of 18 MTPA and Expansion in Pit Head Coal Washery from 15 MTPA to 21 MTPA in total ML area of 2682.856 ha of M/s Rajasthan Rajya Vidyut Utpadan Nigam Ltd. located in villages Salhi, Hariharpur, Ghatbarra, Parsa, Kente, Parogiya and Basan, Tehsil Ambikapur, District Sarguja (Chhattisgarh) - For Environment Clearance under Clause 7(ii) of Ministry OM dated 11th April, 2022 – reg.**

**[Online Proposal No. IA/CG/CMIN/409149/2022; File No. J-11015/03/2008-IAII(M)]**

**38.13.1** The Proposal for Environmental Clearance for Parsa East and Kanta Basan (PEKB) Opencast Coal Mine of 18 MTPA and Expansion in Pit Head Coal Washery from 15 MTPA to 21 MTPA in total ML area of 2682.856 ha of M/s Rajasthan Rajya Vidyut Utpadan Nigam Ltd. located in villages Salhi, Hariharpur, Ghatbarra, Parsa, Kente, Parogiya and Basan, Tehsil Ambikapur, District Sarguja (Chhattisgarh) under Clause 7(ii) of the Ministry's OM dated 11.04.2022.

**38.13.2** 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) The project area is covered under Survey of India Topo Sheet No. 64J/13 and is bounded by the geographical coordinates ranging from latitude 22° 50'11" N to 22°50'24" N and longitude 82° 48'46"E to 82°49'22" E.
- (ii) Coal linkage of the project is proposed for captive use for various linked Thermal Power Plants.
- (iii) 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.
- (iv) Employment generation to 2168 persons will be provided from the project.
- (v) The project is reported to be beneficial in terms of coal from this project will be used in power generation in Rajasthan, which will help in reducing gap in demand and production of electricity in the state. Based on the requirement of the people of the project area, the development activities are being taken up. The basic requirement of the community is being strengthened by extending health care, educational facilities developed in the township to the community, providing drinking water to the villages affected, building/strengthening of existing roads in the area etc. Project is also generating direct as well as indirect employment in the area.
- (vi) Earlier, the environment clearance to the project was obtained under EIA Notification, 2006 vide Ministry's letter No. J-11015/120/2014-IA-II(M) dated 10<sup>th</sup> August 2018 for 15 MTPA in mine lease area of 2682.856 ha.
- (vii) Total mining lease area as per block allotment is 2767 ha and as per approved mining plan is 2682.856 ha Mining Plan (Including Progressive Mine Closure Plan) has been approved by Ministry of Coal on 12<sup>th</sup> August 2016.
- (viii) The land usage pattern of the project is as follows:

**Pre-mining:**

| S.N. | LANDUSE                      | Within ML Area (ha) | Outside ML Area (ha) | TOTAL           |
|------|------------------------------|---------------------|----------------------|-----------------|
| 1.   | Agricultural land, Tenancy & | 701.786             | Nil                  | 701.786         |
| 2.   | Forest land                  | 1871.118            | Nil                  | 1871.118        |
| 3.   | Others (Government Land)     | 109.952             | Nil                  | 109.952         |
|      | <b>TOTAL</b>                 | <b>2682.856</b>     | Nil                  | <b>2682.856</b> |

**Post- Mining:**

| S. N. | Type            | During Mining (ha) | End of Life (ha) | Land Use (ha)     |            |            |                  |            | TOTAL    |
|-------|-----------------|--------------------|------------------|-------------------|------------|------------|------------------|------------|----------|
|       |                 |                    |                  | Plantation Grass/ | Water Body | Public Use | Agriculture land | Dismantled |          |
| 1.    | External OB     | 112.655            | 112.655          | 112.655           | -          | -          | -                | -          | 112.655  |
| 2.    | Topsoil         | 5.000              | 5.000            | 5.000             | -          | -          | -                | -          | 5.000    |
| 3.    | Excavation Area | 2328.247           |                  | 2127.555          | 260.692    |            |                  |            | 2328.247 |
|       | (i) Backfilled  |                    | 2157.560         |                   |            |            |                  |            |          |

|    |                                   |                 |                 |                 |                |               |          |               |                 |
|----|-----------------------------------|-----------------|-----------------|-----------------|----------------|---------------|----------|---------------|-----------------|
|    | (ii)<br>Excavated                 |                 | 230.687         |                 |                |               |          |               |                 |
| 4. | Road &<br>Infrastructur<br>e area | 137.435         | 137.435         | 13.744          | -              | 32.601        | -        | 91.090        | 137.435         |
| 5. | Rationalizati<br>on               | 39.518          | 39.518          | 35.931          | -              | 3.588         | -        | -             | 39.518          |
|    | <b>TOTAL</b>                      | <b>2682.856</b> | <b>2682.856</b> | <b>2294.884</b> | <b>260.692</b> | <b>36.189</b> | <b>-</b> | <b>91.090</b> | <b>2682.856</b> |

Details of land requirement for mine and washery

| Sl. No.  | Particular                               | Land (ha)       |
|----------|--|-----------------|
| <b>A</b> | <b>Mining</b>                            |                 |
|          | Excavation area & barrier                | 2388.247        |
| <b>B</b> | <b>Infrastructure &amp; OB dump area</b> |                 |
| 1        | External dump                            | 112.655         |
| 3        | Infrastructure area                      | 36.224          |
| 4        | Coal evacuation route (Railway siding)   | 30.260          |
| 5        | CHP & Washery                            | 28.381          |
| 6        | Reject Based TPP                         | 42.570          |
| 7        | Plantation area                          | 3.990           |
| 8        | Rationalization area                     | 40.532          |
|          | Total (B)                                | <b>294.609</b>  |
|          | <b>Grand total (A + B)</b>               | <b>2682.856</b> |

- (ix) Total geological reserve reported in the mine lease area is 516.40 Million Tonnes with 452.46 Million Tonnes mineable reserve. Out of total mineable reserve of 452.46 Million Tonnes, 452.46 MT are available for extraction. Percent of extraction is 87.62 %.
- (x) Three (Seam-VI, Seam-V & Seam-IV) seams with thickness ranging from 2.27 m to 9.72 m are workable. Average Grade of coal is F, stripping ratio 5.24 m<sup>3</sup>/T, while average gradient is 4<sup>0</sup> (1 in 15).
- (xi) Method of mining operations envisaged by opencast method with Overburden removal by shovel-dumper & coal mining by surface miner.
- (xii) Coal Washery/Jig washing system and Heavy media cyclone system. 15 MTPA coal washery with modules of Jig washing system and Heavy media cyclone system. A modular washery of 5MTPA would be installed with wet washing process via heavy media cyclone system and remaining 1 MTPA coal would be processed through modifications in existing 5 MTPA DMC washery. 15 MTPA - Jig washing and Heavy media cyclone, 1 MTPA raw coal would be processed through modifications in existing 5 MTPA DMC washery.
- (xiii) Life of mine will be 19 years for 21 MTPA capacity.
- (xiv) The project has two external OB dumps in an area of 112.655 ha with 60 m height and 43.52 Mm<sup>3</sup> of OB. Two internal OB dumps in an area of 2157.560 ha with 2325.20 Mm<sup>3</sup> of OB is envisaged in the project.
- (xv) Total quarry area is 2388.247 ha out of which backfilling will be done in 2157.560 ha while

final mine void will be created in an area of 230.687 ha with a depth of 30 m. Backfilled quarry area of 2127.555 ha shall be reclaimed with plantation. Final mine void will be converted into a water body.

- (xvi) Transportation of coal has been proposed by in mine pit head, from surface to siding by conveyor and at sidings by Railway.
- (xvii) Reclamation Plan in an area of 2294.884 ha, comprising of 112.655 ha of external dump, 2157.560 ha of internal dump and 54.675 ha of green belt including safety zone/rationalization area.
- (xviii) 1898.328 ha of forest land has been reported to be involved in the project. Approval under the Forest (Conservation) Act, 1980 for diversion of 1898.328 ha of forest land for non-forestry purposes has been obtained vide MoEF&CC letter F.no.8-31/2010-FC dated 15<sup>th</sup> March 2012.
- (xix) No National Parks, Wildlife Sanctuaries and Eco-Sensitive Zones fall within 10 km boundary of the project.
- (xx) The ground water level has been reported to be varying between Pre-monsoon-7.70 to 18.08 m bgl to Post-monsoon- 2.70 to 5.80 m bgl.
- (xxi) Total water requirement for the project is 13,195 KLD.
- (xxii) NOC of the Central Ground Water Authority for has been obtained on 15<sup>th</sup> October 2022.
- (xxiii) Public hearing- Present Application is for expansion of EC (15 to 21 MTPA) which does not attract PH. Public Hearing for 15 MTPA capacity was conducted on 11<sup>th</sup> September 2016, Village- Basan, District Surguja, Chhattisgarh.
- (xxiv) Consent to Operate for the existing capacity of 15 MTPA was obtained from the State PCB on 01/12/2021 and is valid till 30/11/2024.
- (xxv) River/nalla is flowing 2.7 Km boundary from Northern Boundary of the block of lease. No nalla diversion is involved.
- (xxvi) Regular monitoring of ambient air quality is being carried out on fortnightly basis. The documented report is submitted to SPCB and also to MoEF&CC along with half yearly EC compliance report. In general, the results of ambient air quality monitoring data were found within prescribed limits except few aberrations which can be attributed to the specific local conditions during the day of sampling.

(xxvii) Court cases pending area-

**1. Civil Appeal no(s). 4395 of 2014** Rajasthan Rajya Viduyt Utpadan Nigam Ltd vs Sudiep Shrivastava & Others pending before the **Hon'ble Supreme Court of India**

**Case Status** - Mr. Sudiep filed an appeal before the NGT Delhi, against order dated 28.03.2012 by the Forest Department, Chhattisgarh. Further against the judgment passed by NGT, RVUNL preferred a civil appeal (CA. no. 4395 of 2014) before the Hon'ble Supreme Court of India.

**Orders/Directions** - On 13.09.2022 both the matters were listed together and upon mentioning of Sudiep Shrivastava the Court issued notice to Ministry of Coal as a party in DK Soni matter. No direction was passed in FC matter.

**2. Writ Petition No. 371 of 2019** Dinesh Kumar Soni Vs. Union of India & Others pending before the **Hon'ble Supreme Court of India**

**Case Status** - Writ Petition related to PEKB raising issues of

(i) Formation of JV for MDO Operation is against coal block de-allocation judgement

(ii) washery rejects to private party is causing loss to RVUNL, and in turn, to the public of Rajasthan

(iii) Coal supplied by PEKB coal Block is at very high price than CIL price

(iv) EC dated 21st December 2011 is not being complied with.

**Orders/Directions** - The matter is tagged along with the CA No. 4395/2014 and on the last date of hearing i.e. 13.09.2022 Ministry of Coal is made a party for furnishing its response on the issue involved in the Writ Petition.

**3. Appeal No. 185 of 2018** Sudiep Shrivastava vs Union of India & Ors. pending before **National Green Tribunal, New Delhi**

**Case Status** - The present appeal is filed challenging the Environment Clearance dated 10.08.2018 granted by MOEF for expansion of PEKB from 10 MTPA to 15 MTPA.

**Orders/Directions** - List after the decision of the Hon'ble Supreme Court in Civil Appeal No(s). 4395 of 2014. *Adjourned sine die*.

**4. Writ Petition (C) No. 1346/2016** Forest Right Committee Ghatbarra vs Union of India & Ors. pending before **The Hon'ble High Court of Chhattisgarh**

**Case Status** - The present petition is filed to challenge the order dated 08.1.2016 passed by the District Level Forest Rights Committee (DLC) Sarguja, office of Collector (Tribal Welfare) Ambikapur, District Sarguja.

**Orders/Directions** - Pleadings are complete and the matter is at the stage of final hearing. No next date is fixed in the matter and shall come up for hearing in due course. Post completion of all pleadings, the court of Registrar-1 of Supreme Court has referred this matter to main bench on 23/11/2016 for final arguments. Presently case is pending before supreme courts after some hearings.

**5. Writ Petition (C) No. 1346/2016** Forest Right Committee Ghatbarra vs Union of India & Ors. pending before **The Hon'ble High Court of Chhattisgarh**

**Case Status** - Matter is regarding Forest Rights of the Community over the forest land.

**Orders/Directions** - Pending on account of Adjudgment.

(xxviii) The project does not involve violation of the EIA Notification, 2006 and amendment issued thereunder. The coal production from the mine was started from the year 2013 onwards. No excess production of coal from the sanctioned capacity has been realized since the commencement of mining operations.

| <b>Year</b> | <b>EC sanctioned capacity</b> | <b>Actual production</b> | <b>Excess production beyond</b> |
|-------------|-------------------------------|--------------------------|---------------------------------|
| 2012-13     | 10                            | 0.29                     | Nil                             |
| 2013-14     | 10                            | 1.20                     | Nil                             |
| 2014-15     | 10                            | 3.44                     | Nil                             |
| 2015-16     | 10                            | 6.21                     | Nil                             |



| <b>Year</b>   | <b>EC sanctioned capacity</b> | <b>Actual production</b> | <b>Excess production beyond</b> |
|---------------|-------------------------------|--------------------------|---------------------------------|
| 2016-17       | 10                            | 8.27                     | Nil                             |
| 2017-18       | 10                            | 8.33                     | Nil                             |
| 2018-19       | 15                            | 15                       | Nil                             |
| 2019-20       | 15                            | 15                       | Nil                             |
| 2020-21       | 15                            | 15                       | Nil                             |
| 2021-22       | 15                            | 15                       | Nil                             |
| 2022-23 (Oct) | 18                            | 5.82                     | Nil                             |
|               | <b>Total</b>                  | <b>93.562</b>            |                                 |

(xxix) Land acquisition is not involved for washery expansion, hence, no additional PAFs.

(xxx) Total cost of the project is Rs. 2800 Crore. Cost of production is 1279 Per Metric Tonper tonne., R&R cost is Rs 82 crores. Environment Management Cost is Rs. 820 Lakh (Capital), Rs. 433 Lakh (Recurring).

**38.13.3** The EAC during deliberation noted the following:

- i. The Environment clearance was obtained under EIA Notification, 2006 vide Ministry's letter No. J-11015/120/2014-IA-II(M) dated 10<sup>th</sup> August 2018 for 15 MTPA in mine lease area of 2682.856 ha. The instant project has been Amendment in EC by Ministry vide its letter dated 19th July, 2019 and 23rd December, 2021. Further expansion in production capacity of coal mine from 15 MTPA to 18 MTPA was obtained by PP on 14th February, 2022.
- ii. FC for Forest land of 1898.328 ha has been obtained vide MoEF&CC letter F.no. 8-31/2010-FC dated 15<sup>th</sup> March 2012.
- iii. No National Parks, Wildlife Sanctuaries and Eco-Sensitive Zones fall within 10 km boundary of the project.
- iv. NOC of the Central Ground Water Authority for has been obtained on 15<sup>th</sup> October 2022.
- v. PH was conducted on 11.09.2016 for the capacity of 15 MTPA under EIA Notification, 2006.
- vi. CTO for 15 MTPA has been obtained from the State PCB dated 01.012.2021 and is valid till 30.11.2024.
- vii. The project proponent has submitted the following status of compliance of OM dated 11.04.2022 for expansion of Parsa East & Kanta Basan Pit Head Coal washery from 15 MTPA to 21 MTPA:

| <b>Sl. No.</b> | <b>Condition as per OM</b>   | <b>Compliance</b>   |
|----------------|--|---|
| 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 categories of projects which have been | Public Hearing for expansion of Mine from 10 MTPA to 15 MTPA was conducted involving entire mining lease area of 2682.856 Ha on 11 <sup>th</sup> September 2016 for which Environment Clearance was issued vide letter No. J-11 |

| Sl. No. | Condition as per OM   | Compliance  |
|---------|---|---|
|         | exempted as per para 7 III (i) of EIA Notification 2006 and its amendments.   | 015/03/2008-IA-II (M) dated 10 <sup>th</sup> August 2018.   |
| ii)     | There should not be change in Category of the project from 'B2' to 'B1' or 'A' due to proposed modernization or expansion.  | There is no change in category of the Project Parsa East & Kanta Basan Opencast Coal Mine & Pit Head Coal Washery is <b>Category A</b> 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 mining vis-a-vis the area mentioned in the EC, based on which public hearing has been held earlier. | No additional land is required for expansion of coal washery as land is already acquired as part of mining lease area of 2682.856 ha. Public Hearing for expansion of Mine from 10 MTPA to 15 MTPA was conducted involving entire mining lease area of 2682.856 Ha on 11 <sup>th</sup> September 2016 for which Environment Clearance was issued vide letter No. J-11 015/03/2008-IA-II (M) dated 10 <sup>th</sup> August 2018. |
| (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.  | Present application is being submitted for 40% expansion of coal washery from 15 MTPA to 21 MTPA.   |
| (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.   | Cumulative values of air quality for the proposed expansion for PM <sub>10</sub> is 60.00159 µg/m <sup>3</sup> and PM <sub>2.5</sub> is 35.95805 µg/m <sup>3</sup> are under the prescribed norms. The sewage generated after proposed expansion will be continuing to treated in STP and STP treated water will be reused, hence the environmental quality parameters will be within the 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%.  | Greenbelt plan including plantation as part of progressive mine closure plan shall be undertaken in line with mine closure plan. There shall be no impact on existing greenbelt due to proposed expansion.  |
| (vii)   | The project proponent should have satisfactorily complied the conditions  | Certified compliance report of the Environmental Clearance issued vide letter No.   |

| Sl. No. | Condition as per OM  | Compliance   |
|---------|--|--|
|         | 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. | J-11 015/03/2008-IA-II (M) dated 10 <sup>th</sup> August 2018 for existing 15 MTPA Opencast Coal Mine & Coal washery was issued by IRO, Raipur vide its letter no. EC-866/RON/2018-NGP/483 dated 19 <sup>th</sup> January 2022 covering all these points. ATR report against the non-compliance of EC conditions has been submitted to the IRO Raipur on 20.09.2022 for further process.                       |
| (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 categories of projects which have been exempted as per para 7 III (i) of EIA Notification 2006 and its amendments.  | Public Hearing for expansion of Mine from 10 MTPA to 15 MTPA was conducted involving entire mining lease area of 2682.856 Ha on 11th September 2016 for which Environment Clearance was issued vide letter No. J-11 015/03/2008-IA-II (M) dated 10th August 2018. We are applying for 40% capacity expansion which is exempted from public hearing as per office memorandum dated 11 <sup>th</sup> April 2022. |
| (ix)    | Effluent monitoring including air quality monitoring systems as specified in the existing EC, if stipulated, should have been installed.   | All the Environmental Monitoring systems including air quality monitoring systems as specified in existing EC are in place and same has been acknowledged in the Certified compliance report of the IRO, Raipur, vide its letter no. EC-866/RON/2018-NGP/483 dated 19 <sup>th</sup> January 2022.  |

**38.13.4** EAC after detailed deliberation observed that the request is for the expansion of Pit Head Coal Washery of Parsa East and Kanta Basan OC Mine from 15 MTPA to 21 MTPA without any additional land acquisition within mining lease area of 2682.856 Ha under OM dated 11.04.2022. The EAC noted that as per OM the PP has not submitted the certified compliance report for the Amendment in EC letter dated 23.12.2021 and EC letter dated 14.02.2022 which is compulsorily required for the compliance of criteria of OM dated 11.04.2022. The EAC also desired to know the mode of transportation from mine pit to washery and till railway siding.

Further, compliance of issues raised during earlier public hearing was discussed and desired for further information. Lastly, Committee emphasised to submit the certified compliance report approved

from IRO for further consideration into the EAC. However, the Committee has positive attitude towards granting the EC.

Based on the above discussion, EAC sought further information on following points:

- i. PP shall submit the Certified compliance report from Ministry's IRO for the amendment in EC letter dated 23.12.2021 and EC letter dated 14.02.2022 for further consideration.
- ii. PP shall submit the details of expenditure incurred for addressing the issues raised during last Public Hearing which includes the utilization of the fund till date with few photographs except that of work done under Corporate Social Responsibility (CSR).
- iii. PP shall submit undertaking that work completed under compliance of Public Hearing is not included in its CSR fund expenditure.
- iv. PP shall submit the revised mining plan including the plan for the Mine as well as for washery with the current capacity.
- v. PP shall submit the Action Taken Report to Ministry's IRO for the non-compliance, partial compliance and other observation raised by IRO.
- vi. PP shall submit the details of mode of transportation from mine pit to Coal washery and from washery to railway siding and impact of road transportation with its fleet size.

In view of above, the proposal was **deferred** by EAC for submission of compliance.

#### **Agenda No. 38.14**

**Sub: Vastan Lignite Mine of 1.2 MTPA in the Mine Lease area of 1536 ha of M/s SLPP-Gujarat Industries Power Company Ltd. located at Village Nani Naroli, Taluka Mangrol, District Surat (Gujarat) – For Terms of Reference (under MoEF&CC's SOP dated 28.01.2022 -Violation category)**

**38.14.1** The instant proposal was considered and deliberated for Terms of Reference (ToR) by EAC in its 37th meeting held during 17-18 November 2022 under Ministry's SOP dated 28.01.2022 for handling violation projects.

The proposal was recommended for grant of ToR with exemption of public hearing since PP had conducted PH in 2013 in the mine lease area of 80 ha for limestone mineral (being extracted from lignite mine lease of 1536 ha) and EC was granted by Ministry.

The Competent Authority has desired to further discuss the matter with EAC since mineral has changed and last public hearing was carried out in 2013.

**38.14.2** The EAC after deliberation observed that recommendation of exemption in public hearing was to be reconsidered as observed by Competent Authority. Accordingly, committee reviewed the matter in totality since inception of this mines in 1996 and it has been decided to recommend to conduct of Public Hearing considering the mineral to be extracted and earlier PH was conducted in 2013. Also, the overall area of the mine lease of limestone and lignite is different.

*Further, all other terms and conditions recommended by EAC in its earlier meeting shall remain unchanged.*

**The meeting with vote of thanks**

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**Annexure-I**

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

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

**(a) Statutory compliance**

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

**(b) Air quality monitoring and preservation**

- (i) Continuous ambient air quality monitoring stations as prescribed in the statute be

established in the core zone as well as in the buffer zone for monitoring of pollutants, namely PM10, PM2.5, SO2 and NOx. 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 PM10/PM2.5) such as haul road, loading/unloading and transfer points. Fugitive dust emissions from all sources shall be controlled regularly. It shall be ensured that the Ambient Air Quality parameters conform to the norms prescribed by the Central/State Pollution Control Board.
  - (iv) The transportation of coal shall be carried out as per the provisions and route envisaged in the approved Mining Plan or environment monitoring plan. Transportation of the coal through the existing road passing through any village shall be avoided. In case, it is proposed to construct a 'bypass' road, it should be so constructed so that the impact of sound, dust and accidents could be appropriately mitigated.
  - (v) Vehicular emissions shall be kept under control and regularly monitored. All the vehicles engaged in mining and allied activities shall operate only after obtaining 'PUC' certificate from the authorized pollution testing centres.
  - (vi) Coal stock pile/crusher/feeder and breaker material transfer points shall invariably be provided with dust suppression system. Belt-conveyors shall be fully covered to avoid airborne dust. Side cladding all along the conveyor gantry should be made to avoid 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 5 km. A riverine/riparian ecosystem conservation and management plan should be prepared and implemented in consultation with the irrigation / water resource department in the state government.

**(d) Noise and Vibration monitoring and prevention**

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

**(e) Mining Plan**

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

**(f) Land reclamation**

- (i) Digital Survey of entire lease hold area/core zone using Satellite Remote Sensing survey shall be carried out at least once in three years for monitoring land use pattern and report in 1:50,000 scale or as notified by Ministry of Environment, Forest and Climate Change (MOEFCC) from time to time shall be submitted to MOEFCC/Regional Office (RO).
- (ii) The final mine void depth should preferably be as per the approved Mine Closure Plan, and in case it exceeds 40 m, adequate engineering interventions shall be provided for sustenance of aquatic life therein. The remaining area shall be backfilled and covered with thick and alive top soil. Post-mining land be rendered usable for agricultural/forestry purposes and shall be diverted. Further action will be treated as specified in the guidelines for Preparation



of Mine Closure Plan issued by the Ministry of Coal dated 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 3rd November, 2009 as amended from time to time. Efforts shall be made to utilize gypsum generated from Flue Gas Desulfurization (FGD), if any, along with fly ash for external dump of overburden, backfilling of mines. Compliance report shall be submitted to Regional Office of MoEF&CC, CPCB and SPCB.
- (v) Further, it may be ensured that as per the time schedule specified in mine closure plan it should remain live till the point of utilization. The topsoil shall temporarily be stored at earmarked site(s) only and shall not be kept unutilized. The top soil shall be used for land reclamation and plantation purposes. Active OB dumps shall be stabilised with native grass species to prevent erosion and surface run off. The other overburden dumps shall be vegetated with native flora species. The excavated area shall be backfilled and afforested in line with the approved Mine Closure Plan. Monitoring and management of rehabilitated areas shall continue until the vegetation becomes self-sustaining. Compliance status shall be submitted to the Ministry of Environment, Forest and Climate Change/ Regional Office.
- (vi) The project proponent shall make necessary alternative arrangements, if grazing land is involved in core zone, in consultation with the State government to provide alternate areas for livestock grazing, if any. In this context, the project proponent shall implement the directions of Hon'ble Supreme Court with regard to acquiring grazing land.
- (g) Green Belt**
  - (i) The project proponent shall take all precautionary measures during mining operation for conservation and protection of endangered/endemic flora/fauna, if any, spotted/reported in the study area. The Action plan in this regard, if any, shall be prepared and implemented in consultation with the State Forest and Wildlife Department.
  - (ii) Greenbelt consisting of 3-tier plantation of width not less than 7.5 m shall be developed all along the mine lease area as soon as possible. The green belt comprising a mix of native species (endemic species should be given priority) shall be developed all along the major approach/ coal transportation roads.
- (h) Public hearing and Human health issues**
  - (i) Adequate illumination shall be ensured in all mine locations (as per DGMS standards) and monitored weekly. The report on the same shall be submitted to this ministry & its RO on six-monthly basis.
  - (ii) The project proponent shall undertake occupational health survey for initial and periodical medical examination of the personnel engaged in the project and maintain records

accordingly as per the provisions of the Mines Rules, 1955 and DGMS circulars. Besides regular periodic health check-up, 20% of the personnel identified from workforce engaged in active mining operations shall be subjected to health check-up for occupational diseases and hearing impairment, if any, as amended time to time.

- (iii) Personnel (including outsourced employees) working in core zone shall wear protective respiratory devices and shall also be provided with adequate training and information on safety and health aspects.
- (iv) Implementation of the action plan on the issues raised during the public hearing shall be ensured. The project proponent shall undertake all the tasks/measures as per the action plan submitted with budgetary provisions during the public hearing. Land oustees shall be compensated as per the norms laid down in the R&R policy of the company/State Government/Central Government, as applicable.
- (v) The project proponent shall follow the mitigation measures provided in this Ministry's OM No.Z-11013/5712014-IA.II (M) dated 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 shareholders/stake holders.
  - (iii) A separate Environmental Cell both at the project and company head quarter level, with qualified personnel shall be set up under the control of senior Executive, who will directly to the head of the organization.
  - (iv) Action plan for implementing EMP and environmental conditions along with responsibility matrix of the company shall be prepared and shall be duly approved by competent authority. The year wise funds earmarked for environmental protection measures shall be kept in separate account and not to be diverted for any other purpose. Year wise progress of implementation of action plan shall be reported to the Ministry/Regional Office along with the Six Monthly Compliance Report.
  - (v) Self-environmental audit shall be conducted annually. Every three years third party environmental audit shall be carried out.
- (j) **Miscellaneous**
  - (i) The project proponent shall make public the environmental clearance granted for their project along with the environmental conditions and safeguards at their cost by

prominently advertising it at least in two local newspapers of the District or State, of which one shall be in the vernacular language within seven days and in addition this shall also be displayed in the project proponent's website permanently.

- (ii) The copies of the environmental clearance shall be submitted by the project proponents to the Heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt.
- (iii) The project proponent shall upload the status of compliance of the stipulated environmental 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 with 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 revarian /riparian ecosystem conservation and management plan should be prepared and implemented in consultation with the irrigation / water resource department in the state government.

#### **IV. Noise and Vibration monitoring and prevention**

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

#### **V. Mining Plan**

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

## **VI. Land reclamation**

- i. Digital Survey of entire lease hold area/core zone using Satellite Remote Sensing survey shall be carried out at least once in three years for monitoring land use pattern and report in 1:50,000 scale or as notified by Ministry of Environment, Forest and Climate Change (MOEFCC) from time to time shall be submitted to MOEFCC/Regional Office (RO).
- ii. Post-mining land be rendered usable for agricultural/forestry purposes and shall be handed over to the respective State Government, as specified in the Guidelines for Preparation of Mine Closure Plan, issued by the Ministry of Coal dated 27th August, 2009 and subsequent amendments.
- iii. Regular monitoring of subsidence movement on the surface over and around the working areas and its impact on natural drainage pattern, water bodies, vegetation, structure, roads and surroundings shall be continued till movement ceases completely. In case of observation of any high rate of subsidence beyond the limit prescribed, appropriate effective mitigation measures shall be taken to avoid loss of life and materials. Cracks should be effectively plugged in with ballast and clay soil/suitable material.
- iv. Fly ash shall be used for external dump of overburden, backfilling or stowing of mine as per provisions contained in clause (i) and (ii) of subparagraph (8) of fly ash notification issued vide SO 2804 (E) dated 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 shareholders / stake holders. The copy of the board resolution in this regard shall be submitted to the MoEF&CC as a part of six-monthly report.
- iii. A separate Environmental Cell both at the project and company head quarter level, with qualified personnel shall be set up under the control of senior Executive, who will directly to the head of the organization.
- iv. Action plan for implementing EMP and environmental conditions along with responsibility

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

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

**X. Miscellaneous**

- i. The project proponent shall make public the environmental clearance granted for their project along with the environmental conditions and safeguards at their cost by prominently advertising it at least in two local newspapers of the District or State, of which one shall be in the vernacular language within seven days and in addition this shall also be displayed in the project proponent's website permanently.
- ii. The copies of the environmental clearance shall be submitted by the project proponents to the Heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt.
- iii. The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and update the same on half-yearly basis.
- iv. The project proponent shall submit six-monthly reports on the status of the compliance of the stipulated environmental conditions on the website of the ministry of Environment, Forest and Climate Change at environment clearance portal.
- v. The project proponent shall submit the environmental statement for each financial year in Form-V to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently and put on the website of the company.
- vi. The project authorities shall inform to the Regional Office of the MOEFCC regarding commencement of mining operations.
- vii. The project authorities must strictly adhere to the stipulations made by the State Pollution Control Board and the State Government.
- viii. The project proponent shall abide by all the commitments and recommendations made in the EIA/EMP report, commitment made during Public Hearing and also that during their presentation to the Expert Appraisal Committee.
- ix. No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment, Forests and Climate Change (MoEF&CC).
- x. Concealing factual data or submission of false/fabricated data may result in revocation of this environmental clearance and attract action under the provisions of Environment (Protection) Act, 1986.
- xi. The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.
- xii. The Ministry reserves the right to stipulate additional conditions if found necessary. The

Company in a time bound manner shall implement these conditions.

- xiii. The Regional Office of this Ministry shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data / information/monitoring reports.
- xiv. The above conditions shall be enforced, inter-alia under the provisions of the Water(Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 and the Public Liability Insurance Act, 1991 along with their amendments and Rules and any other orders passed by the Hon'ble Supreme Court of India / High Courts and any other Court of Law relating to the subjectmatter.
- xv. Any appeal against this EC shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.

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### **Annexure-III**

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

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

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

- (vi) Solid waste/hazardous waste generated in the washery needs to be addressed in accordance to the Solid Waste Management Rules, 2016 / Hazardous & Other Waste Management Rules, 2016.
- (vii) Coal beneficiation practices shall be carried out under strict adherence to provisions of the Factories Act, 1957 and subordinate legislations made there under.

## **II. Air quality monitoring and preservation**

- i. Adequate ambient air quality monitoring stations shall be established in the core zone as well as in the buffer zone for monitoring of pollutants, namely particulates, 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. shall be carried out at least once in six months.
- ii. Continuous ambient air quality monitoring stations as prescribed in the statute shall 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. shall be carried out at least once in six months.
- iii. Transportation of coal by road shall be carried out by covered trucks/conveyors. The transportation of clean coal and rejects shall be by rail with wagon loading through silo. Effective measures such as regular water sprinkling shall be carried out in critical areas prone to air pollution and having high levels of particulates such as roads, belt conveyors, loading/unloading and transfer points. Fugitive dust emissions from all sources shall be controlled at source. It shall be ensured that the ambient air quality parameters conform to the norms prescribed by the Central/State Pollution Control Board.
- iv. All approach roads shall be black topped and internal roads shall be concreted. The roads shall be regularly cleaned. Coal transportation shall be carried out by covered trucks.
- v. Covered trucks shall be engaged for mineral transportation outside the washery up to the railway siding, shall be optimally loaded to avoid spillage en-route. Trucks shall be adequately maintained and emissions shall be below notified limits.
- vi. Facilities for parking of trucks carrying raw material from linked mine shall be

- created within the unit.
- vii. Vehicular emissions shall be kept under control and regularly monitored. The vehicles having 'PUC' certificate from authorized pollution testing centres shall be deployed for washery operations.
  - viii. Hoppers of the coal crushing unit and other washery units shall be fitted with high efficiency bag filters/mist spray water sprinkling system shall be installed and operated effectively at all times of operation to check fugitive emissions from crushing operations, transfer points of closed belt conveyor systems and from transportation roads.
  - ix. The raw coal, washed coal and coal wastes (rejects) shall be stacked properly at earmarked site (s) within stockyards fitted with wind breakers/shields. Adequate measures shall be taken to ensure that the stored mineral does not catch fire.
  - x. The temporary reject sites should be appropriately planned and designed to avoid air and water pollution from such sites.

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

- i. The effluent discharge (mine waste water, workshop effluent) shall be monitored in terms of the parameters notified under the Water Act, 1974 Coal Industry Standards vide GSR 742 (E) dated 25.9.2000 and as amended from time to time by the Central Pollution Control Board.
- ii. The monitoring data shall be uploaded on the company's website and displayed at the project site at a suitable location. The circular No. J-20012/1/2006-1A.11 (M) dated 27.05.2009 issued by Ministry of Environment, Forest and Climate Change shall also be referred in this regard for compliance.
- iii. Industrial waste water shall be properly collected and treated so as to conform to the standards prescribed under the Environment (Protection) Act, 1986 and the Rules made there under, and as amended from time to time.
- iv. The project proponent shall not alter major water channels around the site. Appropriate embankment shall be provided along the side of the river/nallah flowing near or adjacent to the washery. The embankment constructed along the river/nallah boundary shall be of suitable dimensions and critical patches shall be strengthened by stone pitching on the river front side stabilised with plantation so as to withstand the peak water pressure preventing any chance of inundation.
- v. Heavy metal content in raw coal and washed coal shall be analysed once in a year and records maintained thereof.
- vi. The rejects should preferably be utilized in FBC power plant or disposed off through sale for its gainful utilization. If the coal washery rejects are to be disposed off, it should be done in a safe and sustainable manner with adequate compaction and post closure arrangement to avoid water pollution due to leachate from rejects and surface runoff 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/transfer points and also along internal roads/main approach roads.
- ii. The project proponent shall make necessary alternative arrangements, if grazing land is involved in core zone, in consultation with the State government to provide alternate areas for livestock grazing, if any. In this context, the project proponent shall implement the directions of Hon'ble Supreme Court with regard to acquiring grazing land.

#### **VII. Public hearing and Human health issues**

- i. Adequate illumination shall be ensured in all mine locations (as per DGMS standards) and monitored weekly. The report on the same shall be submitted to this ministry & its RO on six-monthly basis. 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. 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 shareholders /stake holders. The copy of the board resolution in this regard shall be submitted to the MoEF&CC as a part of six-monthly report.
  - iii. A separate Environmental Cell both at the project and company head quarter level, with qualified personnel shall be set up under the control of senior Executive, who will directly to the head of the organization.
  - iv. Action plan for implementing EMP and environmental conditions along with responsibility matrix of the company shall be prepared and shall be duly approved by competent authority. The year wise funds earmarked for environmental protection measures shall be kept in separate account and not to be diverted for any other purpose. Year wise progress of implementation of action plan shall be reported to the Ministry/Regional Office along with the Six Monthly Compliance Report.
  - v. Self-environmental audit shall be conducted annually. Every three years third party environmental audit shall be carried out.

## **IX. Miscellaneous**

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



- compliance of the stipulated environmental conditions on the website of the ministry of Environment, Forest and Climate Change at environment clearance portal.
- 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 conveyor 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-11013/25/2014-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. Therejects 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 conveyer belt. If it is far away, the transportation should be by rail as far as possible.
- xviii. Copies of MOU/Agreement with linkages (for stand-alone washery) for the capacity for which EC is being sought should be submitted.
- xix. Corporate Environment Responsibility:
  - a) The Company must have a well laid down Environment Policy approved by the Board of Directors.
  - b) The Environment Policy must prescribe for standard operating process/procedures to bring into focus any infringements/deviation/violation of the environmental or forest norms/conditions.
  - c) The hierarchical system or Administrative Order of the company to deal with environmental issues and for ensuring compliance with the environmental clearance conditions must be furnished.
  - d) To have proper checks and balances, the company should have a well laid down system of reporting of non-compliances/violations of environmental norms to the Board of Directors of the company and/or shareholders or stakeholders at large.
- xx. A detailed action Plan for Corporate Social Responsibility for the project affected people and people living in and around the project area should be provided.

- xxi. Permission of drawl of water shall be pre-requisite for consideration of EC.
- xxii. Wastewater /effluent should confirm to the effluent standards as prescribed under Environment (Protection) Act, 1986
- xxiii. Details of washed coal, middling and rejects along with the MoU with the end-users should be submitted.

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**GENERIC TOR FOR AN OPENCAST COALMINE PROJECT for EC**

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

concerned state.

- (x) Similarly, if the project involves diversion of any road/railway line passing through the ML/project area, the proposed route of diversion and its realignment should be shown in the map along with the status of the approval of the competent authority.
- (xi) Break up of lease/project area as per different land uses and their stage of acquisition should be provided.

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

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

- (xii) Break-up of lease/project area as per mining plan should be provided.
- (xiii) Impact of changes in the land use due to the project if the land is predominantly agricultural land/forestland/grazing land, should be provided.
- (xiv) One-season (other than monsoon) primary baseline data on environmental quality - air (PM10, PM2.5, SO<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 seams to be worked, ultimate working depth and progressive stage-wise working scheme until the end of mine life should be provided on the basis of the approved rated capacity and calendar plans of production from the approved Mining Plan. Geological maps and sections should be included. The Progressive mine development and Conceptual Final Mine Closure Plan should also be shown in figures. Details of mine plan and mine closure plan approval of Competent Authority should be furnished for green field and expansion projects.
- (xviii) Details of mining methods, technology, equipment to be used, etc., rationale for selection of specified technology and equipment proposed to be used vis-à-vis the potential impacts should be provided.
- (xix) Impact of mining on hydrology, modification of natural drainage, diversion and channeling of the existing rivers/water courses flowing through the ML and adjoining the lease/project and the impact on the existing users and impacts of mining operations thereon.
- (xx) Detailed water balance should be provided. The break-up of water requirement for the various mine operations should be given separately.
- (xxi) Source of water for use in mine, sanction of the Competent Authority in the State Govt. and impacts vis-à-vis the competing users in the upstream and downstream of the project site, should be given.



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

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

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

\* As a representative example

Table 2 : Stage Wise Cumulative Plantation

| S. No. | YEAR*  | Green<br>Belt | External<br>Dump | Backfilled<br>Area | Others(Undisturbed<br>Area/etc) | TOTAL |
|--------|--|---------------|------------------|--------------------|---------------------------------|-------|
| 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<br>(end of mine<br>life) |               |                  |                    |                                 |       |
| 10.    | 34-37 <sup>th</sup> Year<br>(Post-mining)      |               |                  |                    |                                 |       |

\* As a representative example

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

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

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

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

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

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

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

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

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

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

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

(xxxix) Corporate Environment Responsibility:

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

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

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

|  |  |   |  |  |  |
|--|--|---|--|--|--|
|  |  | If more than,<br>provide<br>details of<br>each FC |  |  |  |
|--|--|---|--|--|--|

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## ANNEXURE -VI

### GENERIC TORs FOR AN UNDERGROUND COAL MINE PROJECT

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

- (vi) A detailed Site plan of the mine showing the proposed break-up of the land for mining operations such as the quarry area, OB dumps, green belt, safety zone, buildings, infrastructure, CHP, ETP, Stockyard, township/colony (within and adjacent to the ML), undisturbed area -if any, and landscape features such as existing roads, drains/natural water bodies to be left undisturbed along with any natural drainage adjoining the lease /project areas, and modification of thereof in terms of construction of embankments/bunds, proposed diversion/re-channelling of the water courses, etc., approach roads, major haul roads, etc should be indicated.
- (vii) Original land use (agricultural land/forestland/grazing land/wasteland/waterbodies) of the area should be provided as per the tables given below. Impacts of project, if any on the land use, in particular, agricultural land/forestland/grazing land/water bodies falling within the lease/project and acquired for mining operations should be analyzed. Extent of area under surface rights and under mining rights should be specified.

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

#### Area under Surface Rights

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

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

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

- (x) Details of mining methods, technology, equipment to be used, etc., rationale for selection of specified technology and equipment proposed to be used vis-à-vis the potential impacts should be provided.
- (xi) Impact of mining on hydrology, modification of natural drainage, diversion and channeling of the existing rivers/water courses flowing through the ML and adjoining the lease/project and the impact on the existing users and impacts of mining operations thereon.
- (xii) One-season (other than monsoon) primary baseline data on environmental quality - air (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 anML/project area of ha for OC and .... MTPA for UG in an ML/project area of ha based on the generic structure specified in Appendix III of the EIA Notification 2006.
  
- (ii)An EIA-EMP Report would be prepared for MTPA rated capacity to cover the impacts and environment management plan for the project specific activities on the environment of the region, and the environmental quality encompassing air, water, land, biotic community, etc. through collection of data and information, generation of data on impacts including prediction modeling for MTPA of coal production based on approved project/Mining Plan for MTPA. Baseline data collection can be for any season (three months) except monsoon.
  
- (iii) The ToRs prescribed for both opencast and underground mining are applicable for opencast – cum underground mining.



**LIST OF PARTICIPANTS OF EAC (COAL) IN 38<sup>th</sup> MEETING HELD DURING 14-15 DECEMBER, 2022 THROUGH VIDEO CONFERENCING**

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