



सत्यमेव जयते

File No.: J-11015/81/2008-IA.II (M)  
Government of India  
Ministry of Environment, Forest and Climate Change  
IA Division  
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Dated 08/02/2024



To,

Shri Jagdish Kumar Soni  
JINDAL POWER LIMITED  
12, Jindal Centre, Bhikaji Cama Place, New Delhi , SOUTH, DELHI , 110066  
info@jindalpower.com

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

**Sir/Madam,**

This is in reference to your application submitted to MoEF&CC vide proposal number IA/CG/CMIN/453727/2023 dated 12/12/2023 for grant of prior Environmental Clearance (EC) to the project under the provision of the EIA Notification 2006-and as amended thereof.

2. The particulars of the proposal are as below :

(i) EC Identification No.	EC23A0101CG5521692N
(ii) File No.	J-11015/81/2008-IA.II (M)
(iii) Clearance Type	Mining EC Under 5 Ha
(iv) Category	A
(v) Project/Activity Included Schedule No.	1(a) Mining of minerals
(vi) Sector	Coal Mining Expansion of Gare Palma IV/1 Coal Mine at Villages Nagaramuda, Tapranga, Dongamahua, Dhaurabhanta, Janjgir and Amgaon, Tehsil Tamnar, District Raigarh, Chhattisgarh, (Production: 6.0 MTPA to 7.2 MTPA) of Jindal Power Limited
(vii) Name of Project	
(ix) Location of Project (District, State)	RAIGARH, CHHATTISGARH
(x) Issuing Authority	MoEF&CC
(xii) Applicability of General Conditions	Yes

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

4. Proposal was submitted on 12.12.2023 in pursuant to Ministry's OM dated 11.04.2022 (Stage-I - 40% expansion). Project activity is covered under Cat A and Schedule 1a & 2a of the EIA Notification 2006 and as amended thereof. PP submitted the EIA/EMP report based on the Standard ToR available on PARIVESH. Public hearing for the project of capacity 6 MTPA for an area of 978.654 hectare was conducted on 25.09.2009 at Janjgir, Tehsil Gharghoda, District Raigarh (Chhattisgarh) under the chairmanship of Additional District Magistrate, Raigarh. Repeat PH for expansion (upto 40%) under Ministry's OM dated 11.04.2022 is exempted.

5. Proposal was considered by the EAC in its meeting held on 22.12.2023 wherein Project Proponent alongwith NABET accredited EIA Consultant (Min Mec Consultancy Pvt. Ltd.) made the detailed presentation and interalia provided the following information:

(i) Ministry of Environment & Forests granted Environmental clearance for capacity of the mine as 2.0 MTPA and ML area 705.556 ha to Jindal Steel & Power Ltd. Ministry vide letter dated 06.12.2005 granted Environmental clearance for increase in the capacity of the mine from 2.0 to 6.0 MTPA and ML area 705.556 ha to Jindal Steel & Power Ltd. Further Ministry, vide letter no. J-11015/81/2008.IA-II(M) dated 21.05.2012 granted EC for expansion of ML area from 705.556 ha to 978.654 ha with the coal mining capacity at 6 MTPA and expansion of coal washery II from 2.4 MTPA to 3.2 MTPA. In 2104, Block was deallocated and mine was operated by custodian SECL during 2014-2021. The Ministry of Coal vide its Allotment Order No. NA-104/16/2020-NA, dated 08th March, 2021 has allotted the Gare Palma IV/1 coal mine to M/s Jindal Power Limited under provisions of the Coal Mines (Special Provisions) Act, 2015 (the Act) the Coal Mines (Special Provisions) Rules 2014 (the Rules.). The prior EC granted by MoEF&CC was transferred in the name of Jindal Power Ltd. from Jindal Steel & Power Ltd. vide letter no. J- 11015/81/2008.IA-II(M) dated 28.10.2021.

(ii) Total mining lease area as per approved mining plan is 978.654 ha. Mining Plan for 6 MTPA production was prepared and approved by Ministry of Coal vide letter no. 13016/5/2004-CA-1 dated 16.05.2008. Mine Closure Plan was approved by MOC vide letter no. 13016/05/2004-CA-1(Part) dated 19.08.2014. Mining Plan and Mine Closure Plan (3rd Modification) (8.4 MTPA, project area/ applied ML 978.654 ha) has been approved by the Board of Jindal Power Ltd. vide resolution dated 20.04.2023 under minor changes, clause 1.3.(B) of guidelines for preparation, formulation, submission, processing, scrutiny, approval and revision of Mining Plan for the coal and lignite blocks, issued by Ministry of Coal vide O.M No.34011/28/2019-CPAM dated 29.05.2020

(iii) Location of Project: The project area is covered under Survey of India Toposheet no. 64 N/12 (open series map F44L12; R.F.1:50,000) and is bounded by the geographical coordinates ranging from Latitudes (N): 22° 05' 38.115" to 22°08' 3.698", and Longitude (E): 83°31' 31.225" to 83° 34' 1.57".

(iv) Coal linkage of the project is proposed for JPL power plant at Tamnar, as well as sale to other user as permitted. The Ib Valley PIA is the nearest critically polluted area situated at the distance of 34.8 km, south east from the project boundary.

(v) Land Use Details of Mine:

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

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

**Post mining Landuse details (Ha)**

S.	Description of area	Land use (Ha.)					Total
		Plantation (return to forest land)	Agriculture	Water body	Public use	Undisturbed	
1.	External Dump	61.009	9.941				70.95
2.	Topsoil Dump						
3.	Excavation/Quarry Area						
(a)	Backfilled Areas		534.73				534.73
(b)	Excavated void			184.03			184.03
4.	Road		10.0		26.25		36.25
5.	Built up area (infrastructure)						
6.	Green Belt	30.17					30.17
7.	Undisturbed area					117.524	117.524
8.	Safety Zone/ Rationalisation Zone						
9.	Diversion/ Below River/ Nala/ Canal			5.0			5.0
10.	Water body						-
11.	Staff colony						
<b>TOTAL</b>		<b>91.179</b>	<b>554.671</b>	<b>189.03</b>	<b>26.25</b>	<b>117.524</b>	<b>978.654</b>

(vi) No National Parks, Wildlife Sanctuaries and Eco-Sensitive Zones fall within 10 km boundary of the project. Wildlife conservation plan for schedule- I species has been submitted to competent authority and approved vide letter no. 142 dated 23.08.2022.

(vii) Total water requirement for the project is 5,742 KLD. Ground water table has been reported to be varying between 5.2 to 54.6 meter below ground level (m bgl) in pre-monsoon and 2.0 to 52.3 meter below ground level in post-monsoon. NOC from CGWA has been obtained vide NOC no. CGWA/NOC/MIN/ORIG/2022 /15683 dated 07.06.2022 valid up to 06.06.2024.

(viii) Mining details: Total geological reserve reported in the mine lease area is 140.89 MT with 126.49 MT mineable reserve. Out of total mineable reserve of 126.49 MT, 120.17 MT are available for extraction. Percent of extraction is 90.5%. 18 seams with thickness ranging from 0.44-10.74 m are present. Grade of coal varies from Grade varying from D to G and the average grade is F & G (G-12 to G-17 based on GCV). Stripping ratio was 3.11 (upto 31.03.2023) & shall be 5.73 (in future) (Cum:Tonne), while gradient is 2 to 6 degree. Method of mining operations envisaged by opencast mechanized method. Life of mine: Reduction of 11 years from 16 years to 5 years.

The project has 2 external OB dumps in an area of 70.95 ha with heights of 75 m and 65 m and 21.91 Mm<sup>3</sup>. Internal OB in an area of 534.73 Ha with 340.749 Mm<sup>3</sup> of OB is envisaged in the project. Total quarry area is 718.760 ha out of which backfilling will be done in 534.73 ha while final mine void will be created in an area of 184.03 Ha with a depth of 155 m. Backfilled quarry area of 534.73 ha shall be reclaimed with agriculture. Final mine void 184.03 ha will be converted into a water body. Bendra Nala is flowing within boundary of lease. The nala has been diverted (straightening of meander).

(ix) Transportation of Coal: Transportation of coal has been proposed by dumpers in pit and from surface to JPL power plant through a 7 km long Cross Country Pipe Conveyor (CCPC) and by road during break down only.

(x) Reclamation Plan in an area of 645.85 ha, comprising of 534.73 ha backfilled area, 70.95 ha dump, 10 ha road and infrastructure area. In addition to this, an area of 30.17 ha has also been proposed for green belt development. 91.179 ha of forest land was involved while seeking EC of 2012 for extension in ML area from 705.556 ha. to 978.654 ha. Approval under the Forest (Conservation) Act, 1980 for diversion of this 91.179 ha of forest land for non-forestry purposes has been obtained vide MoEF&CC letter F. No. 8-60/2009-FC dated 11th July 2023.

(xi) Regular monitoring of ambient air quality is being carried out on fortnightly basis. The documented report is submitted to RO, MoEF&CC along with half yearly EC compliance report. In general, the results of ambient air quality monitoring data were found within prescribed limits except few aberrations which can be attributed to the specific local conditions during the day of sampling. CAAQMS is also established within the area to monitor the ambient air quality and the same is linked with the CECB.

(xii) Total cost of the project is Rs. 483.33 Crores. Cost of production is Rs. 1150 per tonne (approximately). Proposed CSR activities for FY-2023-24 are Rs. 4.01 crores. R&R cost is Rs. 7.02 Crores. Capital & recurring cost on EMP were

envisaged as Rs. 2798.38 lakhs and Rs.402.08 lakhs respectively.

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

(xiv) Consent to Operate for the existing capacity was obtained from the Chhattisgarh Environment Conservation Board vide Letter No. 6558/TS/CECB/ 2021 Nava Raipur Atal Nagar, Raipur, Dated 22/11/2023 valid till 31/10/2024. No court cases with respect to the environment and forest, no violation cases are pending against the project of the present PP.

(xv) Employment generation- Present manpower for 6.0 MTPA production is 1005 and additional manpower requirement for the expansion of mine to 8.4 MTPA shall be 112 including outsourced. Thus, the total has been estimated as 1117 persons after expansion.

(xvi) Project benefits:

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

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

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

6. EAC after detailed presentation observed that instant proposal is for 40% expansion (8.4 MTPA) in existing EC capacity (6 MTPA). Public hearing for the project of capacity 6 MTPA for an area of 978.654 ha was conducted on 25.09.2009 under the chairmanship of Additional District Magistrate, Raigarh. Approval under the Forest (Conservation) Act, 1980 for diversion of this 91.179 ha of forest land for a non-forestry purpose has been obtained vide MoEF&CC letter F. No. 8-60/2009-FC dated 11th July 2023. Permission for the withdrawal of Ground water has been obtained vide NOC no. CGWA/NOC/MIN/ORIG/2022/15683 dated 07/06/2022 which is valid upto 06/06/2024 for 413 KLD fresh water and 5329 KLD dewatering from mine. Further, Wildlife Conservation Plan for schedule- I species from Office of the Principal Forest Conservator (Wildlife & Biodiversity Conservation) & Chief Wildlife Custodian, Chhattisgarh vide letter no. 142 dt. 23.08.2022. Life of mine: Reduction of 11 years from 16 years to 5 years. Transportation of coal has been proposed by dumpers in pit and from surface to JPL power plant through a 7 km long Cross Country Pipe Conveyor (CCPC) and by road during break down only. No National Parks, Wildlife Sanctuaries and Eco-Sensitive Zones fall within 10 km boundary of the project.

7. EAC, after deliberating on the instant proposal at a length and getting proper justification, **recommended** the grant of Environmental Clearance for 20% expansion (7.2 MTPA) for expansion of Gare Palma IV/I Coal mine project for increase in production capacity from 6.0 MTPA to 7.2 MTPA (with existing Coal Washery within the ML area having capacity of 3.6 MTPA) by M/s Jindal Power Limited located at Villages Nagaramuda, Tapranga, Dongamahua, Dhaurabhanta, Janjgir and Amgaon, Tehsil Tamnar, District Raigarh (Chhattisgarh) with the specific/standard conditions under the provisions of EIA Notification, 2006 and its amendments.

8. The MoEF&CC has examined the proposal in accordance with the provisions contained in the Environment Impact Assessment (EIA) Notification, 2006 & further amendments thereto and based on the recommendations of the EAC hereby accords Environment Clearance for the instant proposal to M/s Jindal Power Limited for expansion of Gare Palma IV/I Coal mine project for increase in production capacity from 6.0 MTPA to 7.2 MTPA (with existing Coal Washery within the ML area having capacity of 3.6 MTPA) at Villages Nagaramuda, Tapranga, Dongamahua, Dhaurabhanta, Janjgir and Amgaon, Tehsil Tamnar, District Raigarh (Chhattisgarh) under the provisions of EIA Notification, 2006 and as amended thereof subject to compliance of the Specific and Standard EC conditions as given in **Annexure (1)**

9. The proponent shall obtain all necessary clearances/approvals that may be required before the start of the project. The Ministry or any other competent authority may stipulate any further condition for environmental protection. The Ministry or any other competent authority may stipulate any further condition for environmental protection.

10. The Environmental Clearance to the aforementioned project is under provisions of EIA Notification, 2006. It does not tantamount to approvals/consent/permissions etc. required to be obtained under any other Act/Rule/regulation. The Project Proponent is under obligation to obtain approvals /clearances under any other Acts/ Regulations or Statutes, as applicable, to the project.

11. The PP is under obligation to implement commitments made in the Environment Management Plan, which forms part of this EC (Annexure II).

12. Any appeal against this environmental clearance 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.

13. The coal company/project proponent shall be liable to pay the compensation against the illegal mining, if any, and as raised by the respective State Governments at any point of time, in terms of the orders dated 2nd August, 2017 of Hon'ble Supreme Court in WP (Civil) No.114/2014 in the matter of 'Common Cause Vs Union of India & others.

14. The concerned State Government shall ensure no mining operations to commence till the entire compensation for illegal mining, if any, is paid by the project proponent through their respective Department of Mining & Geology, in strict

compliance of the judgment of Hon'ble Supreme Court. This environmental clearance shall not be operational till such time the project proponent complies with the above said judgment of Hon'ble Supreme Court, as applicable, and other statutory requirements.

**15. General Instructions:**

- The project proponent shall prominently advertise it at least in two local newspapers of the District or State, of which one shall be in the vernacular language within seven days indicating that the project has been accorded environment clearance and the details of MoEF&CC website where it is displayed.
- 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 must display the same for 30 days from the date of receipt.
- The project proponent shall have a well laid down environmental policy duly approved by the Board of Directors (in case of Company) or competent authority, duly prescribing 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.
- Action plan for implementing EMP and environmental conditions along with responsibility matrix of the project proponent (during construction phase) and authorized entity mandated with compliance of conditions (during operational phase) shall be prepared. The year wise funds earmarked for environmental protection measures shall be kept in separate account and not to be diverted for any other purpose. Six monthly progress of implementation of action plan shall be reported to the Ministry/Regional Office along with the Six-Monthly Compliance Report.
- 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.
- The Regional Office of this MoEF&CC 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.

**16 .This issue with an approval of the Competent Authority.**

**Copy To**

1. The Secretary, Ministry of Coal, Shastri Bhawan, New Delhi
2. Deputy Director General of Forests (C), Ministry of Environment, Forest and Climate Change, Integrated Regional Office, Ground Floor, Aranya Bhawan, North Block, Sector- 19,, Naya Raipur, Atal Nagar, Chhattisgarh – 492002
3. The Chairman, Central Ground Water Authority, Ministry of Water Resources, Curzon Road Barracks, A-2, W-3 Kasturba Gandhi Marg, New Delhi
4. The Regional Director, Central Ground Water Board, Central Ground Water Board, North Central Chhattisgarh Region, Reena Apartment, 2nd Floor, NH 43, Dhamtari Road, Panchpedi Naka, Raipur- 492001, Chattisgarh
5. The Chairman, Chhattisgarh Environment Conservation Board, Paryavas Bhavan, North Block Sector-19, Atal Nagar Dist- Raipur(C.G.)492002.
6. The Member Secretary, Chhattisgarh Environment Conservation Board, Paryavas Bhavan, North Block Sector-19, Atal Nagar Dist- Raipur(C.G.)492002
7. The District Collector, **Raigarh**, Government of (Chhattisgarh)
8. PARIVESH Portal

**Annexure 1**

**Specific EC Conditions for (Mining Of Minerals)**

## 1. Specific Condition:

S. No	EC Conditions
1.1	<i>As per NGT order dated 15.02.2022 in Original Application No. 104/2018 in the matter of Shivpal Bhagat &amp; Ors vs UIO, PP to comply with all the recommendations of Carrying Capacity Study being conducted by reputed institute by CPCB &amp; SPCB.</i>
1.2	<i>As per NGT order dated 15.02.2022 in Original Application No. 104/2018 in the matter of Shivpal Bhagat &amp; Ors vs UIO, proper and free health care facilities with multispecialty treatment system shall be provided in coal mine buffer area.</i>
1.3	<i>As per NGT order dated 15.02.2022 in Original Application No. 104/2018 in the matter of Shivpal Bhagat &amp; Ors vs UIO, PP shall have to comply that when coal is sold to TPP, there is the agreement to sell that at least 25% Fly Ash of the coal sold, should be accepted by the coal company (seller) from TPP(Purchaser) failing which coal company shall be liable for civil action and other legal measures.</i>
1.4	<i>PP to obtain the CTO for Opencast coalmine capacity of 7.2 MTPA after grant of EC and for existing Coal washery of 3.6 MTPA capacity.</i>
1.5	<i>PP shall explore the possibility of implementation of In-pit belt conveyor system along with Silo loading system for 7.2 MTPA.</i>
1.6	<i>Till fully mechanised system put in place, PP shall deploy at least 30% of overall fleet size of dumpers/trucks as electrical or CNG/LNG based dumpers/trucks for transportation of coal/OB etc and deploy e-vehicles for workers/staff in/out of the mine.</i>
1.7	<i>PP shall obtain CTO for ETP from respective SPCB and status to be reported to IRO, MoEF&amp;CC.</i>
1.8	<i>PP to install continuous ambient air quality monitoring stations at suitable locations preferably village side with consultation of SPCB. The real time data so generated shall be uploaded on company website and linked it with website of CPCB &amp; SPCB. In addition, data should also be displayed digitally at entry and exit gate of mine lease area for public display.</i>
1.9	<i>PP to address the issues of local public with sufficient budgetary provisions as a part of public hearing. The maintenance of all public hearing activities shall be covered through recurring cost, which will be part of CSR budget.</i>
1.10	<i>PP to address activities-wise budget as EMP cost in time bound. The details of annual expenditure shall be part of report submitted to IRO, MoEF&amp;CC. PP needs to include the audited figures against the expenditure and activities to be monitored through dedicated online monitoring mechanism. The maintenance of all activities shall be covered through recurring cost, which will be part of CSR budget.</i>
1.11	<i>PP shall establish Environmental laboratory at project site by March 2024 and create Environmental Management Cell to monitor the issues related environmental degradation.</i>
1.12	<i>PP shall treat the mine water with analytical reports before use by the local villagers.</i>
1.13	<i>PP shall deploy the truck size of upto 40 tonnes (payload) for transportation of coal within the mine</i>

S. No	EC Conditions
	<i>area through dedicated haul road till implementation of In-pit belt conveyor system. SPCB shall monitor the coal transportation by road or rail and CTO to be issued accordingly.</i>
1.14	<i>PP shall conduct feasibility studies for assessment of voids for backfilling of ash and mixing of ash with overburden, taking up backfilling ash and OB mixing activities during operations as well as post closure of mines in line with the Fly Ash Utilization Notification, 2021.</i>
1.15	<i>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.</i>
1.16	<i>PP shall conduct third party audit of compliance of EC condition at an interval six months and its report shall be submitted to IRO, MoEF&amp;CC.</i>
1.17	<i>PP shall ensure the compliance of expenditure to be incurred for wildlife conservation plan submitted to the State Govt. and the details expenditure shall be submitted with six monthly EC compliance report to Ministry's IRO. Also, PP shall engage State Biodiversity Authority and local biodiversity committee for implementation of CSR activity for developing the local market.</i>
1.18	<i>PP shall complete the tree plantation in and around village Dongamahua in calendar year 2024 and submit a report to IRO, MoEF&amp;CC.</i>
1.19	<i>The plantations done by the PP need to be adequately densified and audited by a third party to assess their efficacy. Densification of existing plantations shall also be done during the monsoon of 2024.</i>
1.20	<i>PP shall create a "Public Grievance Redressal and Monitoring System" for resolving any issues related to the pollution of mines and complaint has to be suitably resolved as soon as possible but certainly not beyond 30 days. In this regard, adequate awareness to be spread among the public to address their grievance to company with simple and easy manner and for which company needs to devise the mechanism. The same shall be reported to IRO within 3 months. A logbook to be maintained by PP on "Public Grievance Redressal and Monitoring System."</i>
1.21	<i>Hon'ble Supreme Court in an Writ Petition(s) Civil No. 114/2014, Common Cause vs Union of India &amp; 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&amp;CC.</i>
1.22	<i>PP shall have to comply the condition w.r.t washery as prescribed in the Ministry's letter dated 21.05.2012 and 28.10.2021 and submit to IRO, MoEF&amp;CC</i>
1.23	<i>PP shall fully complete the approved R&amp;R plan by October 2024</i>
1.24	<i>A detailed water balance study shall be carried out through a third party and details submitted to IRO by June 2024.</i>

S. No	EC Conditions
1.25	<i>PP shall explore the installation of full mechanised system to avoid marginal road transportation system and submit details to IRO</i>

**Standard EC Conditions for (Mining of minerals)**

**1. Statutory Compliance**

S. No	EC Conditions
1.1	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.
1.2	The project proponent shall obtain clearance from the National Board for Wildlife, if applicable.
1.3	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. TThe 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).
1.4	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 prior to start/commencement of mining operations/production
1.5	The project proponent shall obtain the necessary permission from the Central Ground Water Authority
1.6	Solid/hazardous waste generated in the mines needs to addressed in accordance to the Solid Waste Management Rules, 2016/Hazardous & Other Waste Management Rules, 2016.
1.7	Permission of power supply to be taken from the concerned authority for meeting power demand of the project site.
1.8	The maximum production or peak production at any given time shall not exceed the limit as prescribed in the EC.
1.9	Validity of Environment Clearance is as per life of the mine mentioned in EC letter or 30 years as per EIA Notification, 2006 and its amendments therein
1.10	All the conditions stipulated in previous Environment Clearance conditions should be strictly complied within certain timeline

**2. Air Quality Monitoring And Mitigation Measure**

S. No	EC Conditions
2.1	Continuous ambient air quality monitoring stations as prescribed in the statue be established in the



S. No	EC Conditions
	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. The new CAAQMS should be installed with expansion.
2.2	The Ambient Air Quality monitoring in the core zone shall be carried out to ensure the Coal Industry Standards notified vide GSR 742 (E) dated 25th September, 2000 and as amended from time to time by the Central Pollution Control Board. Data on ambient air quality and heavy metals such as Hg, As, Ni, Cd, Cr and other monitoring data shall be regularly reported to the Ministry/Regional Office and to the CPCB/SPCB.
2.3	Transportation of coal, to the extent, if permitted by road, shall be carried out by covered trucks/conveyors. Effective control measures such as regular water/mist sprinkling/rain gun/ Fog cannon 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.
2.4	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.
2.5	PP to install solar lights along the road used for transportation of coal to avoid the accidents at night and also seek its maintenance.
2.6	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.
2.7	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 air borne 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.
2.8	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.
2.9	Adequate measures on EMP should be analyzed on annual basis to assess the trend of air pollution data from continuous monitoring station and quarterly report shall be generated and submitted with 6 monthly compliance reports to RO, MoEF&CC.
2.10	Effective safeguard measures for prevention of dust generation and subsequent suppression like regular water sprinkling shall be carried out in areas prone to air pollution. The Fugitive dust emission from all sources shall be regularly controlled by installation of required equipment's. It should be ensured that air pollution level confirm to the standards prescribed by the

S. No	EC Conditions
	MOEFCC/CPCB
2.11	Adequate number of Fog canon (mist sprayer) shall be installed to reduce the impact of air pollution at dust generating sources with time bound action plan.
2.12	PP should Install Wind breaker/shield arrangement along the railway siding for reducing the dust propagation in upwind direction.
2.13	Post environmental closure third party monitoring by reputed instituted in air quality, water, land & soil etc shall be carried out and analysed with EMP measures at regular interval. A suitable recommendation in this regard, shall be furnished to IRO, MoEF&CC for compliance. The data used for analysis shall be obtained from continuous AQMS, site specific water regime. Also third party shall analyses the implementation of river diversion, meeting to the requirement of project report.
2.14	Comparison of average monthly temperature of pre and post mine operation after obtaining EC shall be elaborated for post three years and a record to be maintain at regular interval.

### 3. Water Quality Monitoring And Mitigation Measures

S. No	EC Conditions
3.1	The effluent discharge (mine waste water, workshop effluent) shall be monitored in terms of the parameters notified under the Water Act, 1974 Coal Industry Standards vide GSR 742 (E) dated 25th September, 2000 and as amended from time to time by the Central Pollution Control Board.
3.2	The monitoring data shall be uploaded on the company's website and displayed at the project site at a suitable location. The circular No.J-20012/1/2006-IA.11 (M) dated 27th May, 2009 issued by Ministry of Environment, Forest and Climate Change shall also be referred in this regard for its compliance.
3.3	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.
3.4	Monitoring of water quality upstream and downstream of river including ponds, lakes, tanks 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.
3.5	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.
3.6	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

S. No	EC Conditions
	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.
3.7	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).
3.8	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.
3.9	The water pumped out from the mine, after siltation, shall be utilized for industrial purpose viz. watering the mine area, roads, green belt development etc. The drains shall be regularly desilted particularly after monsoon and maintained properly.
3.10	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.
3.11	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 rivarine/riparian ecosystem conservation and management plan should be prepared and implemented in consultation with the irrigation / water resource department in the state government.
3.12	Quality of polluted water generated from the operations which include COD and acid mine drainage and metal contamination shall be monitored along with TDS, DO, TSS. The monitored data shall be uploaded on the website of the company as well as displayed at the site in public domain.
3.13	Domestic water shall be providing to the residents/villages which are coming under the zone of influence of the project due to ground water extraction and mining operation by installing adequate number of RO plants with proper supply line and Taps within 2 years
3.14	No obsolete technologies for sewage treatment shall be implemented. Construction of Sewage Treatment Plant with latest technology should be completed within 2 years and treated water shall be reused for plantation. CTE and CTO of STP shall be obtained as per the norms.

#### 4. Noise And Vibration Monitoring And Prevention

S. No	EC Conditions
4.1	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.
4.2	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.
4.3	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.

### 5. Mining Plan

S. No	EC Conditions
5.1	5- Star Rating is mandatory to obtaine certification as per guidelines of Mininstry of Coal
5.2	Mining shall be carried out under strict adherence to provisions of the Mines Act 1952 and subordinate legislations made there-under as applicable.
5.3	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).
5.4	No mining shall be carried out in forest land without obtaining Forestry Clearance as per Forest (Conservation) Act, 1980.
5.5	Efforts should be made to reduce energy and fuel consumption by conservation, efficiency improvements and use of renewable energy.
5.6	PP shall adopt mining method by preferably using surface miners for the project and silo loading through in-pit conveyor should be adopted
5.7	Tranportation of coal till Railway Siding shall be developed to avoid transportation through Road

### 6. Land Recalvation

S. No	EC Conditions
6.1	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).
6.2	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

S. No	EC Conditions
	therein. The remaining area shall be backfilled and covered with thick and alive top soil. Post-mining land be rendered usable for agricultural/forestry purposes and shall be diverted. Further action will be treated as specified in the guidelines for Preparation of Mine Closure Plan issued by the Ministry of Coal dated 27th August, 2009 and subsequent amendments.
6.3	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.
6.4	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.
6.5	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.
6.6	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.
6.7	Top soil should be stored separately at marked area and necessary vegetation shall be maintained to avoid any entrainment of dust
6.8	Progressive backfilling of mine and progressive reclamation of OB dump shall be done
6.9	Active OB Dump should not be kept barren/open and should be covered by temporary grass to avoid air born of particles
6.10	PP shall explore the possibilities of utilization of OB material for different purposes (in construction of roads/ manufacture of artificial sand, aggregates/ use for farmers etc.)
6.11	All approach roads to mine and all other roads which are in regular use should be black topped. The maintenance of road shall be done by PP in collaboration with state government
6.12	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-

S. No	EC Conditions
	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

## 7. Green Belt

S. No	EC Conditions
7.1	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.
7.2	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. And Plantation should also be carried out in nearby area with consent of forest department and gram panchayat within 10 km radius with its proper maintenance

## 8. Public Hearing And Human Health Issues

S. No	EC Conditions
8.1	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.
8.2	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.
8.3	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.
8.4	Implementation of the time bound 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 time bound 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.
8.5	The project proponent shall follow the mitigation measures provided in this Ministry's OM No.Z-11013/5712014-IA.II (M) dated 29th October, 2014, titled 'Impact of mining activities on habitations-issues related to the mining projects wherein habitations and villages are the part of

S. No	EC Conditions
	mine lease areas or habitations and villages are surrounded by the mine lease area'.
8.6	PP to conduct need based assessment survey of the area to for in order to decide the activities to be carried under the CSR and to provide detail of the activity carried out with adequate budgetary provision and time bound action plan.
8.7	PP should conduct epidemiology study to (analysis of the distribution, patterns and determinants of health and disease conditions in defined populations).
8.8	Permanent Health care facilities of Hospital should be established within 5 km of project boundary for the local people.
8.9	PP must ensure an emergency action plan during pandemic in order to provide assistance to the nearby villages located within the 10 km radius buffer zone (If required)
8.10	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
8.11	PP to take measure for installation of Renewable Energy sources in nearby area falling within 10 km radius
8.12	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
8.13	Adequate facility of drinking water, plantation and other social amenities should be provided to established R&R villages.
8.14	Persons of nearby villages shall be given training on livelihood and skill development to make them employable with its proper records.
8.15	Compensation of the land acquired for the project shall be settled as per the R&R Policy within fixed timeline

## 9. Corporate Environment Responsibility

S. No	EC Conditions
9.1	The company shall have a well laid down environmental policy duly approve 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.
9.2	A separate Environmental Cell both at the project and company head quarter level, with qualified

S. No	EC Conditions
	personnel shall be set up under the control of senior Executive, who will directly to the head of the organization.
9.3	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.
9.4	Self environmental audit shall be conducted annually. Every three years third party environmental audit shall be carried out.
9.5	PP should establish in house (at project site) environment laboratory for measurement of environment parameter with respect to air quality and water (surface and ground. A dedicated team to oversee environment management shall be setup which should comprise of Environment Engineers, Laboratory chemist and staff for monitoring of air, water quality parameters on routine basis. Any non- compliance or infringement should be reported to the concerned authority

#### 10. Miscellaneous

S. No	EC Conditions
10.1	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.
10.2	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.
10.3	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.
10.4	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.
10.5	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.
10.6	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.
10.7	The project authorities shall inform to the Regional Office of the MOEFCC regarding



S. No	EC Conditions
	commencement of mining operations.
10.8	The project authorities must strictly adhere to the stipulations made by the State Pollution Control Board and the State Government.
10.9	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.
10.10	No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment, Forests and Climate Change.
10.11	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.
10.12	The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.
10.13	The Ministry reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner shall implement these conditions.
10.14	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.
10.15	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.

**Additional EC Conditions**

Mining for the proposed expansion shall be carried out only after abeyance on Stage II FC is lifted for the forest land involved in the project.

**BUDGETARY PROVISION FOR ENVIRONMENTAL MANAGEMENT**

SI No.	Particulars	No. of equip.	For 6 MTPA (based on EIA dated Dec 2009*)	Actual after re-allotment of mine (FY 2022-23)	Future (Additional)		Total after expansion
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h) = (f) + (g)
<b>I.</b>	<b>POLLUTION CONTROL</b>						
1	Stationary water sprinkler	LS	10.0	-	LS	2.0	12.0
2	Water sprayer (Mobile)	4	80.0	-	2	44.0	124.0
3	STP	1	75.0	-		0	75.0
3	Septic tanks / Soak Pits	4	2.0	-		0	2.0
4	Industrial ETP (Settling pond)	10	100.0	-		0	100.0
5	Oil Water Separator (Workshop)	2	8.0	-	1	6.0	14.0
6	Storm water drains	LS	20.0	-	LS	57.0	77.0
7	Culverts	2	48.0	-		0	48.0
8	Garland drains, retaining wall, check dams		-	-	LS	62.0	62.0
9	Drains along roads		-	-	LS	31.0	31.0
	<b>SUB TOTAL</b>		<b>343.0</b>	<b>-</b>		<b>202.0</b>	<b>545.0</b>
<b>II.</b>	<b>POLLUTION MONITORING</b>						

1	High volume sampler	6	2.40			0	2.40
2	Respirable dust sampler / fine particulate samplers	2	1.30		LS	35.0	36.30
3	Micro-meteorological station (50% of online ambient air quality monitor)	1	25.0			0	25.0
4	Laboratory for testing	1	30.0	-		2.0	32.0
5	Online ambient air quality monitoring system (50% of the cost)	1	25.0	66.67		0	91.67
	Installation of water flow meters	-	-	5.76		0	5.76
	Establishment of Piezometers	-	-	6.11		0	6.11
	Portable water testing kits	-	-	-		1.0	1.0
	Handy Noise meter	-	-	-		0.1	0.1
	Miscellaneous	-	-	-		0.9	0.9
	<b>SUB TOTAL</b>		<b>83.7</b>	<b>78.54</b>		<b>39.0</b>	<b>201.24</b>
<b>III.</b>	<b>OCCUPATIONAL HEALTH</b>						
1	Fire fighting equipment (Portable)	15	1.5	-		-	1.5
2	Fire fighting equipment (Fixed)	LS	5.0	-		-	5.0
3	Fire fighting equipment (Mobile)	1	20.0	-		-	20.0
4	Personal protective equipment (goggles,	1036	10.36	In recurring		In recurring	10.36

	gloves, helmets, safety boots etc.)						
	<b>SUB TOTAL</b>		<b>36.86</b>	-		-	<b>36.86</b>
<b>IV.</b>	<b>GREEN BELT</b> Area (30.17 ha in 5 years)		6.03	In recurring		In recurring	6.03
<b>V.</b>	<b>RECLAMATION</b>						
1	External waste dump planted (Ha)	50 Ha.	50.0	-		-	50.0
2	External dump future plantation (26 Ha in 1 yr)	26	26.0	-		-	26.0
3	Internal dump backfill planted (Ha)	4	4.0	-		-	4.0
4	Internal waste dump (486 Hectare in 16 years)	30.35	30.35	-		-	30.35
5	Dozer (410 HP)	1	80.00	-		-	80.00
6	Pumps & Pipes	LS	5.00	-		-	5.00
	<b>SUB TOTAL</b>		<b>195.35</b>	-		-	<b>195.35</b>
<b>VI.</b>	<b>MISCELLANEOUS</b>						
1	Preparation of carious studies, conservation plans, slope stability, etc	LS	20.0	-		-	20.0
2	Fencing, protection, regeneration & maintenance of Safety Zone, concrete wall	LS	500.0	-		828.0	1328.0
3	Compensatory plantation and Afforestation over 1.5 times of Safety	91.179	455.90	-		-	455.90

	Zone area in degraded forest						
4	Expert advice from outside			-		10	10
	<b>SUB TOTAL</b>		<b>975.90</b>	<b>-</b>		<b>838.0</b>	<b>1813.9</b>
	<b>GRAND TOTAL</b>		<b>1640.84</b>	<b>78.54</b>		<b>1079</b>	<b>2798.38</b>

#### RECURRING ANNUAL COST FOR ENVIRONMENTAL PROTECTION

Sl. No.	Particulars	For 6 MTPA (based on EIA dated Dec 2009*)	Actual after re-allotment of mine (FY 2022-23)	Future (Additional)	Total after expansion
(a)	(b)	(c)	(d)	(e)	(f)
1	Pollution control	175.11	-	17.5	192.61
2	Pollution monitoring (Refer Table 6.3, Chapter 6 for details)	8.17	54.53	32.43	86.96
3	Occupational health	14.75	10.36	10.36	25.11
4	Green belt	3.56	-	-	3.56
5	Reclamation	51.57	-	-	51.57
6	Others (fencing, regeneration & maintenance of safety zone, compensatory afforestation, expert advice etc.)	35.40	-	-	35.40

7	Interest on capital cost	0	-	-	0
8	Overheads (3% of Dep., Energy, R&M & Interest)	6.87	-	-	6.87
<b>TOTAL</b>		<b>295.43</b>	<b>64.89</b>	<b>60.29</b>	<b>402.08</b>

