



सत्यमेव जयते

File No.: IA-J-11015/72/2021-IA-II(M)
Government of India
Ministry of Environment, Forest and Climate Change
IA Division



Dated 06/03/2024



To,

Shital Kumar Sahoo
Mahanadi Coalfields Limited
ANAND VIHAR, BURLA , BURLA SAMBALPUR, SAMBALPUR, ODISHA, , 768020
mcl4cil@gmail.com

Subject: Subhadra Open Cast Mine with production capacity of 25 MTPA in mine lease area of 1111.85 ha of M/s Mahanadi Coalfield Limited located at Village Gopal Prasad, Kumuda, Nisha, Kankarei, Raijharan, Nisha P.S Angul, Tehsil Talcher Sadar and Chhendipada, District Angul (Odisha) – Environmental Clearance – reg.

Sir/Madam,

This is in reference to your application submitted to MoEF&CC vide proposal number IA/OR/CMIN/445297/2023 dated 12/10/2023 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.	EC23A0101OR5745830N
(ii) File No.	IA-J-11015/72/2021-IA-II(M)
(iii) Clearance Type	Fresh EC
(iv) Category	A
(v) Project/Activity Included Schedule No.	1(a) Mining of minerals
(vi) Sector	Coal Mining
(vii) Name of Project	Subhadra Open Cast Project
(ix) Location of Project (District, State)	ANUGUL, ODISHA
(x) Issuing Authority	MoEF&CC
(xii) Applicability of General Conditions	No

3. The proposal is for Environmental Clearance for Subhadra Open Cast Mine with production capacity of 25 MTPA in mine lease area of 1111.85 ha of M/s Mahanadi Coalfield Limited located at Village Gopal Prasad, Kumuda, Nisha, Kankarei, Raijharan, Nisha P.S Angul, Tehsil Talcher Sadar and Chhendipada, District Angul (Odisha).

4. Terms of Reference (ToR) was granted vide letter no. J-11015/70/2021-IA. II(M) dated 22.11.2021 and Amendment in

ToR vide letter dated **28.02.2022**. Public Hearing was conducted on 25.08.2023 under the Chairmanship of Shree Pratap Pritimaya, O.A.S. (S) ADM, Angul. Proposal for EC with EIA/EMP report was submitted on PARIVESH portal.

5. Project Proponent alongwith QCI NABET consultant (Vardan Environet) made the detailed presentation in the 3rd & 6th EAC meeting held during 16-17 November, 2023 & 17th Jan 2024, respectively and interalia provided the following information to the EAC:

(i) The Subhadra Open Cast Coal Mine of MCL is located in Kankarei, Pirakhaman, Balichandrapur, Rajjharan, Kaunsidhipa, Golagadia, Chhotabereni, Kumunda, Bhalugadia, Baghuaboli villages and Jaipur RF Tehsil Talcher and Chhendipada, District Angul (Odisha).

(ii) The project area is covered under Survey of India Topo sheet No. F45S13 & F45T1 (RF 1:50000) and is bounded by the geographical coordinates ranging from 20°55'56.225" N and 20°58'47.344" N and longitudes 84°58'42.383" E and 85°0'50.476" E. The DGPS coordinates of the ML area are given in Table 2.1 of EIA Report.

(iii) Project does not fall in the Critically Polluted Area (CPA), where the MoEF&CC's vide its OM dated 13th January, 2010 has imposed moratorium on grant of Environment Clearance.

(iv) There are no National Parks, eco-sensitive Zones, within 10 km radius.

(v) The Utkal A (Subhadra) Coal Mine has been allotted by Ministry of Coal vide order no NA-103/1/2021-NA dated 18.11.2021.

(vi) 125.24ha (Reserve Forest Land: 0.75 ha, Govt. Revenue Forest area: 124.49 ha) of forest land have been reported to be involved in the project. Applications for Forest Clearance was submitted vide Proposal No. FP/OR/MIN/150133/2021 dt. 25.01.2022. Stage I FC has been recommended in the FAC meeting held on 20.10.2023. Stage I FC has been granted vide letter no -8-06/2023-FC dated 05.12.2023.

(vii) There is no national park or wildlife sanctuary within the study area. However, due to presence of Schedule-I Fauna application submitted to DFO, Angul for approval of site specific wild life management plan.

(viii) Mining plan (including Progressive Mine closure plan) has been approved by the MCL Board vide letter no. MCL/SBP/CS/BD-257/Exct/2023/13262 dt- 13.05.2023.

(ix) Method of mining will be Open Cast Mechanized Mining. With due consideration to geo-mining characteristics of the deposit, the mine is proposed to be worked by shovel-dumper combination for OB excavation and Surface Miner for coal winning and loading by Front End Loader.

(x) LAND USE DETAILS OF MINE: Pre Mining land use details

S. No	Type of Land	Within ML Area (Area in Ha.)	Outside ML Area (Area in Ha)	Total (Area in Ha)
1	Agricultural	800.50	Nil	800.50
2	Forest	125.24	Nil	125.24
3	Wasteland	NA	NA	NA
4	Grazing land	58.67	Nil	58.67
5	Water bodies	6.28	Nil	6.28
6	Settlements	NA	NA	NA
7	Others (Specify)			
8	Old Excavation Area (East Quarry)	NA	NA	NA
9	Old Excavation Area (West Quarry)	NA	NA	NA

10	Old OB Dumps	NA	NA	NA
11	Roads	0.25	Nil	0.25
12	R & R Colony	NA	NA	NA
13	Staff Colony	NA	NA	NA
14	Green Belt	NA	NA	NA
15	Balance Area	NA	NA	NA
16	Barren land**	92.64	Nil	92.64
17	Township**	Nil	Nil	Nil
18	Community/others use area**	28.27	Nil	28.27
19	Total Project Area	1111.85	Nil	1111.85

** (As per the above table the total land use area is 1111.85 Ha. The other land use types are Barren land of 92.64, Community/others use area of 28.27 Ha.)

Post Mining

S. No.	Land Use	Land Use (End of Life)	Land Use (ha)				Total
			Plantation	Water Body	Public use	Undisturbed	
1	External OB Dump	24.17	0	0	0	0	24.17
2	Top Soil Dump	8.97	0	0	0	0	8.97
3	Excavation	881.28	0	0	0	0	
4	Roads, buildings Infrastructure	Roads: 15.72	0	0	15.72	0	118.16
		Township: 27.12	1.26	0	25.86	0	
		Infra: 75.32	0	0	0	0	
5	Green Belt	6.89	0	0	0	0	6.89
6	Undisturbed Area	0	0	0	0	0	0
7	Safety Zone	11.79	11.79	0	0	0	11.79
8	Rationalization Area	25.34	25.34	0	0	0	25.34
9	Diversion / Below River / Nala /Canal	8.42	0	0	8.42	0	8.42
10	Water Harvesting	35.36	0	35.36	0	0	35.36
11	Staff Colony		0	0	0	0	
12	Backfilled Area**	715.24	182.52	0	0	0	715.24
13	Excavated Void Without Plantation**	130.68	0	0	0	0	130.68
14	Coal Stock Yard**	9.76	0	0	0	0	9.76
15	Embankment**	11.49	0	0	11.49	0	11.49
16	Explosive Magazine**	5.58	0	0	0	0	5.58
Total Area		1111.85	220.91	35.36	61.49	0	1111.85

** (As per the above table the total land use area is 1111.85 Ha. The other land use types are Backfilled Area of 715.24Ha., Excavated Void without Plantation of 130.68 Ha., Coal Stock Yard of 9.76 Ha., Embankment of 11.49 Ha., and Explosive Magazine of 5.58 Ha.)

(xi) Total Geological Reserve reported in the mine lease area is 1142.67MT with 790.95MT Mineable Reserves by opencast mining. Out of total mineable reserve of 790.95MT,768.83 MT are available for extraction. Percent of extraction is 67%.

(xii) Thickness of seams to be worked on: Opencast mining method is proposed for extraction of coal seam XI to IID. The effective thickness of the seams XI to IID is varying from 0.06m to 75.90m.

Grade of coal: Wt. Avg. G-13 (GCV – 3690 Kcal/Kg)

(xiii) Stripping Ratio: Only In-situ: 0.80 With Re-handling: 0.93

(xiv) Average gradient: - 3.480(1 in 16.44)

(xv) Maximum thickness of seams: Seam XI to IID varies from 0.06m to 75.90 m

(xvi) The project has 1 external OB dumps (temporary) in an area of 24.17 ha with 88m height and 103.72 Mm³ of OB. 1 internal OB dump in an area of 715.24ha with 613.18 Mm³ (Insitu) 103.72 Mm³ (Re handling) of material is envisaged in the project.

(xvii) Total quarry area is 881.28 ha out of which backfilling will be done in 715.24 ha up to 30m while final mine void will be created in an area of 130.68 ha with a depth of 160 m RL and 35.36 ha water body. Backfilled quarry area 182.52 ha shall be reclaimed with plantation, 495.27 ha agriculture land and 37.45 ha will be returned as forest land.

(xviii) Transportation of coal:

In pit: Initially through Dumper and in Pit Conveyor after few years.

Surface to siding: From surface hopper (20 No.) by belt conveyor (18 Nos.)

Siding to loading: Through two Rapid Loading System (RLS) (02 Nos)
Capacity 5000tonne each

Quantity being transported by Road/Rail/Conveyor: As per approved mining plan

Transportation will be carried out as per Approved Mining Plan.

(xix) Reclamation has been planned in an area of 965.45ha, comprising of 538.17 ha Agricultural use, 220.91 ha Plantation, 35.36 ha Water Body & 125.24 ha Forest Land return Area, Nala diversion, Township & Embankment. & 130.68 ha of final void area will be left unplanted.

(xx) Life of mine is 36 Years (including 2 Year of construction)

(xxi) Coal linkage - The mine has been allotted to MCL by the Ministry of Coal vide order no NA-103/1/2021-NA dated 18.11.2021. There shall be no restriction to carry on mining operations for own consumption, sale or for any other purpose.

(xxii) The Primary baseline data for specific micro-meteorology data, ambient air quality, waste quality, noise level, soil and flora & fauna has been collected during Post Monsoon season i.e. October to December, 2022.

(xxiii) Public hearing for the project of 25 MTPA capacity in an area of 1111.85ha was conducted on 25.08.2023 at Ground near Pirakhaman Primary school under Kankarei gram Panchayat of Chhendipada Tehsil of Angul District under the Chairmanship of Shree Pratap Pritimaya, O.A.S. (S) ADM, Angul. Major issues raised in the Public Hearing & appropriate action to address the issues raised in the Public Hearing have already been taken/ proposed to be taken are given in the action plan prepared and mentioned in Chapter -7 in Final EIA/EMP report.

(xixv) No court cases, violation cases are pending against the project of the PP.

(xxv) The project does not involve violation of the EIA Notification, 2006 and amendment issued thereunder since it is a Greenfield project.

(xxvi) Out of the total area of 1111.85 hectares of land to be acquired for the project 696.95 hectares are private land and the remaining areas are Government and Forest lands. While the acquisition of private land has a direct bearing on the personal social and economic status of the land owners. About 1853 families have been identified for displacement due to Subhadra OCP. The R & R benefits will be provided as per norms under R & R policy-2006 of Government of Odisha.

(xxvii) **Benefit of the Project:** Employment Generation-Proposed coal mine shall provide an opportunity of direct employment to 2108 persons and total indirect employment of approx. 5000 persons. The project is reported to be beneficial in terms of energy security for the development of country. Total cost of the project is Rs. 3955.65 Crore. Cost of production is Rs 678 per tonne., Fund for the CSR will be allocated based on 2% of the average net profit of the Company for the three immediately preceding financial years or Rs. 2.0 per tonne of coal production of previous year

whichever is higher. Different peripheral development and community development works will be taken up. R&R cost Rs 405.46Crore. Environment Management Cost was: Capital Rs 2295 Lakh; & Recurring Rs. 201Lakh.

6. Proposal was earlier considered by the EAC in its 3rd meeting held during 16.11.2023-17.11.2023. EAC after detailed deliberation deferred the project and sought additional information. Project Proponent submitted the information as sought by the EAC on the PARIVESH portal, accordingly proposal was considered by the EAC in its 6th meeting held during 17-18 January 2024. During the meeting the Committee deliberated on various issues related to project including issues raised during PH, EMP, Grazing land, plantation, transportation of mineral, water requirement, diversion of nallha. Mining lease area etc. EAC after detailed deliberation **recommended** the Environmental Clearance for Subhadra Open Cast Mine with production capacity of 25 MTPA in mine lease area of 1111.85 ha of M/s Mahanadi Coalfield Limited located at Village Gopal Prasad, Kumuda, Nisha, Kankarei, Rajjharan, Nisha P.S Angul, Tehsil Tachler Sadar and Chhendipada, District Angul (Odisha) with the specific conditions and standard EC conditions (Annexure 1) under the provisions of EIA Notification, 2006 and its amendments. Detailed deliberation, observation and recommendation of the EAC are available on the PARIVESH website.

7. Based on the representation received the proposal was again considered in 7th EAC meeting held during 12-14 February, 2024 wherein the Committee recommended that , *the Ministry may take further necessary action as per recommendation already given by the EAC.*

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 Environmental Clearance to M/s Mahanadi Coalfield Limited for Subhadra Open Cast Mine with production capacity of 25 MTPA in mine lease area of 1111.85 ha located at Village Gopal Prasad, Kumuda, Nisha, Kankarei, Rajjharan, Nisha P.S Angul, Tehsil Talcher Sadar and Chhendipada, District Angul (Odisha)** with the specific conditions and standard EC conditions (Refer: Annexure-I) under the provisions of EIA Notification, 2006 and its amendments.

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.

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:

(i) 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.

(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 must display the same for 30 days from the date of receipt.

(iii) 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.

(iv) 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.

(v) 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.

(vi) 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. The Additional Principal Chief Conservator of Forests, Regional office (EZ), Ministry of Environment & Forests, A-31, Chandershekharpur, Bhubaneswar- 751023 (Odisha).
3. The Secretary, Department of Environment & Forests, Government of Orissa, Secretariat, Bhubaneswar (Odisha).
4. The Member Secretary, Central Pollution Control Board, CBD-cum-Office Complex, East Arjun Nagar, Delhi - 32
5. The Chairman, Orissa State Pollution Control Board, Parivesh Bhawan, A/118, Nilkanthanagar, Unit VIII, Bhubaneshwar - 751012 (Odisha).
6. District Collector, Angul, Government of Odisha
7. PARIVESH portal

Annexure 1

Specific EC Conditions for (Mining Of Minerals)

1. Specific Conditions:

S. No	EC Conditions
1.1	<i>Any activity of the forest land shall only be carried out after obtaining necessary forest clearance.</i>
1.2	<i>PP to obtain the CTO for 25 MTPA (peak) capacity after grant of EC.</i>
1.3	<i>PP shall deploy electric vehicles to the extent of 50% of transportation fleet for evacuation of coal through road up to Balaram Siding (Approx. 11 KM) till commencement of rail evacuation system with CHP of Subhadra OCP which is likely to commence from the fourth year of mining operations. PP shall monitor the EV usage through installation of adequate number of CCTV cameras. Till such time transportation from a dedicated road and village road shall not be used for the same.</i>
1.4	<i>PP shall adopt 6 ponds outside the lease area in different village and carry out the various activities for their protection and maintenance as proposed in the plan submitted for the same to Ministry The budget earmarked for water conservation plan for these ponds is Rs. 1.00 crores shall be kept in a spate account and audited annually. PP while submitting the compliance report to Regional Office and on Parivesh Portal as the case may be also submit evidence of implementation of the plan including geo tagged photographs.</i>
1.5	<i>PP shall develop greenbelt on approximately 38% of the lease area, i.e. on 426.15 ha of land as proposed in the plantation plan submitted to the Ministry and maintain a survival rate of at least 70% (after 10 years of the plantation) by carrying out gap plantation in case of mortality. The budget earmarked for the plantation shall be kept in a separate account. PP should annually submit the audited statement of expenditure along with proof of activities viz. photographs (before & after with geolocation date & time), details of expert agency engaged, details of species planted, number of species planted, survival rate, density of plantation etc. to the Regional Office of MoEF&CC and on PARIVESH Portal as the case may be for the activities carried out during previous year. Third party monitoring of the plantation shall be done preferably by an institution of MoEFCC (eg ICFRE).</i>
1.6	<i>PP shall maintain atleast 10 mtrs width tree plantation of broad leaved species and wind break/greenshield of about 10 mts height along the boundary of coal storage yard.</i>
1.7	<i>PP shall implement the activities-wise proposed to address the issues raised during Public Hearing. The budget earmarked for the same is Rs 1235 lakhs and the same shall be kept in a separate account and audited annually. The details of activities undertaken, amount spent along with documentary proof shall be a part of report to be submitted to IRO, MoEF&CC. The maintenance of all activities shall be covered through recurring cost of Public Hearing, and continued as a part of CSR budget.</i>
1.8	<i>PP shall ensure that all type of plastic waste generated from the mines shall be stored separately in isolated area and disposed of strictly adhering to the Plastic Waste Management Rules 2016. In pursuant to Ministry's OM dated 18/07/2022 PP shall also create awareness among the people working in the project area as well as in its surrounding area on the ban on Single Use Plastic(SUP) in order to ensure compliance of Ministry's Notification published by the Ministry on 12/08/2021. A report along with photograph on the measures taken shall also be included in the six monthly compliance report being submitted by PP.</i>
1.9	<i>All the mitigation measures committed / envisaged in the EIA/EMP report and subsequent submission (ANNEXURE 2) shall be implemented which also includes i) Fog cannon</i>

S. No	EC Conditions
	<p><i>installation: to mitigate dust emissions, ii) Increased greenbelt development budget: aligned with the expanded plan and iii) 02 Continuous Ambient Air Quality Monitoring Stations (CAAQMS): for real-time air quality monitoring. The budget as per revised EMP is Rs 2995 Lakh (Capital) and Rs 201 Lakh (Recurring) shall be kept in a separate account. PP should annually submit the audited statement along with proof of activities carried to the Regional Office of MoEF&CC and PARIVESH Portal as the case may be for the activities carried out during previous year.</i></p>
1.10	<p><i>PP to install 2 continuous ambient air quality monitoring stations at suitable locations preferably on village side with consultation of SPCB. The real time data so generated shall be uploaded on company website and linked with website of CPCB &SPCB. In addition, data should also be displayed digitally at entry and exit gate of mine lease area for public display.</i></p>
1.11	<p><i>PP shall implement Effluent Treatment Plant for wastewater generated from workshop and Sewage Treatment Plant for its colony. No untreated water shall be discharged from mine boundaries to ponds/nallah/river.</i></p>
1.12	<p><i>PP to install solar lights along the road used for transportation of minerals also take up installation of solar lights in rural areas with its maintenance within the study area of 10 km radius buffer zone within one year.</i></p>
1.13	<p><i>Proponent shall appoint an Occupational Health Specialist for Regular and Periodical medical examination of the workers engaged in the Project and maintain records accordingly; also, Occupational health check-ups for workers having some ailments like BP, diabetes, habitual smoking, etc. shall be undertaken once in six months and necessary remedial/preventive measures taken accordingly. The Recommendations of National Institute for ensuring good occupational environment for mine workers shall be implemented. The prevention measure for burns, malaria and provision of anti-snake venom including all other paramedical safeguards may be ensured before initiating the mining activities.</i></p>
1.14	<p><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></p>
1.15	<p><i>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 along with geo tagged photographs shall be sent to the Regional Office of the MoEF&CC.</i></p>
1.16	<p><i>PP shall strengthen the existing Environment Management division of the unit under intimation to the IRO</i></p>

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. 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).
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 be 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 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. The new CAAQMS should be installed with expansion.

S. No	EC Conditions
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 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.

S. No	EC Conditions
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-20012/1/2006-1A.11 (M) dated 27th May, 2009 issued by Ministry of Environment, Forest and Climate Change shall also be referred in this regard for its compliance.
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 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

S. No	EC Conditions
	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.

S. No	EC Conditions
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 Recalmtion

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 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.

S. No	EC Conditions
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-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 maintainance

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 & it's 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 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

S. No	EC Conditions
	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 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

S. No	EC Conditions
	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 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

S. No	EC Conditions
	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

N/A



Annexure 2

Budgetary Provision for Public Hearing issues and EMP

Public Hearing Budget

Proposed Activities under Public Hearing Commitment Scheme		Place of Implementation	Phasing of Allocated proposed PH commitment Budget (Rs. Lakh)					
			Year-1	Year- 2	Year- 3	Year- 4	Year- 5	Total
Air & Water Pollution control measures	Different measures to control Air pollution/Water Pollution like utilization of water sprinklers, fixed sprinklers, fog canon etc.	Kosala village (NW), Sandhapal (NW) Natada (E), Ambapal (E)	80	80	80	80	80	400
Infrastructure development	Construction of Road, School, Solar Street lights supply, Cremation ground etc.	Villages - Kusumpal, Mallibandh, Ambapal,	50	50	50	50	50	250
Plantation	Plantation - Avenue & Community etc.	Kankarei, Pirakhamana, Rajjharan, Balichandrapur	5	5	5	10	10	35
Healthcare	Health Care and vaccination,	Health centres - Angul DHH,	50	50	50	50	50	250

Proposed Activities under Public Hearing Commitment Scheme		Place of Implementation	Phasing of Allocated proposed PH commitment Budget (Rs. Lakh)					
			Year-1	Year- 2	Year- 3	Year- 4	Year- 5	Total
	awareness camp, mobile medical camp, Immunization, medicine etc.	Kosala CHC, Chhendipada CHC, Mandapada PHC Villages - Nisha, Kosala, Raijharan, Balichandrapur, Sandhapal						
Water & Sanitation	Drinking Water Supply and Construction of wells, ponds, hand pumps and tube wells	Village - Kumunda, Ambapal, Natada,	30	30	30	30	30	150
Education & Livelihood Generation	Skill Development Training, Support to schools and other educational institutions	Kankarei High School, Kosala High School, Raijharan High School	30	30	30	30	30	150
Total			245	245	245	250	250	1235

(B) EMP budgetary provision (Capital and Recurring)

	Activity / Item	Units			
			Unit Cost	Capital Cost	Recurring Cost
1.	Air Pollution Control				
a	Truck Mounted Tankers with Mist Spray Sprinkling Arrangement for Haul Roads/Mine/Safety zone etc.	2	35	70	10
b	Mobile Water Mist Spray Sprinkler / truck mounted fog cannon for coal transportation route	1	50	50	6
c	Fixed type Mist spray at Coal stock pile/crusher/Transfer Points etc.	2	15	30	5
d	Wind Barrier Wall & Vertical Greenery System at proposed Railway Siding	LS	LS	30	4
e	Fixed fog cannons at coal stockyard	4	10	40	4
f	CAAQMS	2	15	30	3
Sub Total				250	32
2.	Water Pollution Control				
a	Garland Drain	LS	LS	60	10
b	Effluent Treatment Plant (ETP)	1	LS	90	9
c	Sewage Treatment Plant (STP)	1	LS	40	6
d	Mine Water Sedimentation Pond & Pumps	1	20	20	5
Sub Total				210	30
3.	Noise Control				
a	Noise Pollution Control Measures	LS	LS	100	20
Sub Total				100	20

4.	Conservation of Natural Resources				
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a	Solar lighting arrangement	50	0.7	35	2
b	Pond Conservation of 06 ponds outside the lease area	LS	LS	100	5
c	Soil Preservation (Biological Reclamation)	LS	LS	25	2
Sub Total				160	9
5.	Reclamation & Nursery Development				
a	Green Belt Development & Avenue Plantation etc.	LS	LS	500	55
Sub Total				500	55
6.	Fire Fighting Equipment				
a	Fire tender	1	100	100	10
b	Advance Fire fighting equipment, Fire extinguisher, smoke detectors (for office and workshop), fire Automatic Fire Detection and alarm system etc.	10	30	300	30
Sub Total				400	40
7.	Occupational Health				
a	Personnel Protection Equipment (Ear muffs/plugs, Goggles, Gloves, Helmets, Dust Mask, Safety Boots)	1500	LS	50	10
Sub Total				50	10
8.	Miscellaneous				
a	Awareness Programme (Display Boards (Digital) etc.	-	LS	30	2
b	CCTV camera for monitoring loading and transport, mine blast, fire, dust generation monitoring,	LS	LS	10	1

c	Equipment for Plantation O & M like water tanker, tractor with trolley, other equipment	LS	LS	50	2
Sub Total				90	5
9.	Public Hearing Budget			1235	0
Total Cost (Rs. Lakhs)				2995	201



