



F. No. J-11015/234/2006-IA. II (M)  
Government of India  
Ministry of Environment, Forests & Climate Change  
(Impact Assessment - I Division)

Indira Paryavan Bhavan  
3<sup>rd</sup> Floor, Jal Wing  
Jor Bagh Road  
New Delhi – 110 003

Dated: 16<sup>th</sup> February, 2024

To,

The General Manager (Environment)  
M/s Gujarat Mineral Development Corporation Ltd  
Khanij Bhavan 132 Feet Ring Road near University Ground,  
Vastrapur, Ahemdabad,  
Gujarat – 380052

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

Sir,

This has reference to your online proposal no. IA/GJ/CMIN/418042/2023 dated 17<sup>th</sup> February 2023 on the above mentioned subject for grant of Environment Clearance (EC) under the provision of the EIA Notification 2006, as amended.

2. Earlier, the environment clearance to the project was obtained under EIA Notification, 2006 vide Ministry's letter No. J-11015/234/2006-IA.II(M) dated 7<sup>th</sup> May 2007 for 3 Million TPA in mine lease area of 3672 ha. Standard Terms of Reference for the present application was granted vide letter no. IA-J-11015/234/2006-IA-II (M) dated 9<sup>th</sup> August, 2019. Public hearing for the project of 5 Million TPA capacity in an area of 3672 ha was conducted on 11/03/2022 at GMDC Surkha (N) Lignite Mine near Administrative Office under the Chairmanship of Additional District Magistrate.

3. Total mining lease area as per block allotment is 3672 ha. Mining Plan (Including Progressive Mine Closure Plan) has been approved by MOC vide F. No. 48024/1/2000-Lignite/CA-I. dated 9<sup>th</sup> May, 2016 for the lignite production capacity of 5 Million TPA in existing 3672 ha area.

4. Project proposal for EC was considered by the EAC in its meetings held during 33<sup>rd</sup> EAC meeting held during 25-26 July 2022, 41<sup>st</sup> EAC meeting held during 13-14 March 2023 and 5<sup>th</sup> EAC meeting held on 21-22 Dec 2023. Project Proponent alongwith the QCI/NABET accredited EIA consultant (Central Institute of Mining and Fuel Research, Jharkhand) made the detailed presentation and apprised following to the committee:

- (i) The project area is covered under Survey of India Topo Sheet No. 46C/2, C/3, C/6 & C/7 and is bounded by the geographical coordinates ranging from latitudes 21<sup>03</sup>6'48.321 to 21<sup>04</sup>1'06.928 N and longitudes 73<sup>0</sup> 10' 32.295" to 72<sup>0</sup> 16' 31.275" E.
- (ii) Coal linkage of the project is proposed for: Not Applicable being lignite produced is for merchant sale only to various industries within Gujarat.
- (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. Employment generation @ 745 nos. (105 -departmental and outsourced - 640).The project is reported to be beneficial in terms of Social, Financial and Environmental.
- (iv) Total mining lease area as per block allotment is 3672 ha. Mining Plan (Including Progressive Mine Closure Plan) has been approved by MOC vide F. No. 48024/1/2000-Lignite/CA-I. dated 9<sup>th</sup> May, 2016 for the lignite production capacity of 5 Million TPA in existing 3672 ha area. No forest land has been reported to be involved in the project under the Forest (Conservation) Act, 1980 for diversion for non-forestry purposes.No National Parks, Wildlife Sanctuaries and Eco-Sensitive Zones fall within 10 km boundary of the project area.

The land usage pattern of the project is as follows: Pre-mining land use details (Area in Ha)

S. No.	Land Use	Within ML Area	Outside ML Area	Total
1	Agricultural Land	2941.6784	0.0	2941.6784
2	Forest Land	0.0	0.0	0.0
3	Wasteland	690.4194	0.0	690.4194
4	Grazing Land	39.9022	0.0	39.9022
5	Surface Water Bodies	0.0	0.0	0.0
6	Settlements	0.0	0.0	0.0
7	Others (Specify)	0.0	0.0	0.0

#### Post Mining

S. No.	Land use	Land use (ha)				
		Plantation	Water Body	Public Use	Undisturbed	Total
1	External OB Dump	19.65	0	261	0	280.65
2	Top Soil Dump	13.35	0	0	0	13.35
3	Excavation	768.88	136	110	0	1014.88
4	Roads	0	0	1.22	0	1.22
5	Built-up Area	0	0	4.65	0	4.65
6	Green Belt	60	0	0	0	60

7	Undisturbed Area	0	14	0	2015.38	2029.38
8	Safety Zone / Rationalization Area	239.87	0	0	0	0
9	Diversion / Below River / Nala /Canal	0	0	0	0	0
10	Water Body	0	28	0	0	28
11	Staff Colony	0	0	0	0	0
	<b>Total Area =</b>	<b>1101.75</b>	<b>178</b>	<b>376.87</b>	<b>2015.38</b>	<b>3672</b>

(v) Total geological reserve reported in the mine lease area is 114.72 Million Tonne (MT) with 76.787 Million Tonne (MT) as mineable reserve. Out of total mineable reserve of 76.787 MT, 73.51 MT are available for extraction. Percent of extraction is 95.73% w.r.t mineable reserve. 1 seams with thickness ranging from 0.15 m–13.72 m are workable. Grade of coal is G 13(P), stripping ratio 1:9.96 while gradient is 4° Degree NE. Method of mining operations envisages by Open cast method. The project has 05 external OB dumps (including top soil) in an area of 294 ha with maximum height up to 55 m and 880.26 Mm<sup>3</sup> of OB and 01 internal OB dump in an area of 878.88 ha with 768.1 Mm<sup>3</sup> of OB is envisaged in the project. Total quarry area is 1014.88 ha out of which backfilling will be done in 878.88 ha while final mine void will be created in an area of 136 ha with a maximum depth of 15 m. Backfilled quarry area of 768.88 ha shall be reclaimed with plantation. Final mine void of 136 ha will be converted in water body. Reclamation Plan in an area of 1014.88 ha, comprising of 294 ha of external dump, 768.88 ha of internal dump and 60 ha of green belt. In addition to this, an area of 235.25 ha, included in the safety zone/rationalization area, has also been proposed for green belt development.

(vi) Life of mine is 16 years.

(vii) Transportation of coal has been proposed by road through dumpers in mine pit head and pyrite plant, from surface to siding by dumpers and at sidings by trucks.

(viii) The ground water level has been reported to be varying between 2.13 m to 28.96 m during pre- monsoon and between 1.66 m to 17.58 m during post-monsoon. Total water requirement for the project is 980 KLD. NOC from the Central Ground Water Authority has been obtained on 27/10/2021 with validity up to 26/10/2023

(ix) Baseline air quality has been measured at 8 locations in the study area during winter season (21.12.2020 to 23.03.2021). The 24-hourly average samples of particulate matters (PM10 and PM2.5), SO<sub>2</sub> and NO<sub>x</sub> were measured as per the National Ambient Air Quality Standards (NAAQS), 2009

(x) Public hearing for the project of 5 Million TPA capacity in an area of 3672 ha was conducted

on 11/03/2022 at GMDC Surkha (N) Lignite Mine near Administrative Office under the Chairmanship of Additional District Magistrate. Major issues raised in the public hearing have been included in the EIA. Appropriate action to address the issues raised in the Public Hearing have already been taken and in the process of compliance.

- (xi) Consent to Operate for the existing capacity was obtained from the State PCB on 04/07/2018 and is valid till 31/03/2023.
- (xii) 4 season nalla are flowing in boundary of lease. The nalla is proposed to be diverted in consultation with the Water Resource Department of the State Government. Regular monitoring of ambient air quality is being carried out on monthly basis. The documented report is submitted to GPCB and also to IRO of MoEF & CC along with half yearly EC compliance report. In general, the results of ambient air quality monitoring data were found within prescribed
- (xiii) No court cases, violation cases are pending against the project of the PP. The project does not involve violation of the EIA Notification, 2006 and amendment issued there under. The coal production from the mine was started from the year 2008-09 onwards. No excess production of coal from the sanctioned capacity has been realized since the commencement of mining operations.
- (xiv) Total cost of the project is Rs. 375 Crores. Cost of production is Rs. 2152.60 /- per tonne., CSR cost is Rs 57.50 crore, R&R cost. Not Applicable. Environment Management Cost is Rs 319.05 Lakhs; Capital 252.19 Lakhs & Recurring 66.86 Lakhs.

5. The proposal was last considered by the Expert Appraisal Committee (EAC) for Coal Mining Project in its 5<sup>th</sup> meeting held on dated 21<sup>st</sup> & 22<sup>nd</sup> December, 2023. The comments and observations of EAC on the project may be seen in the Minutes of the meeting which are available on the web-site of this Ministry.

6. The Expert Appraisal Committee after detailed deliberations in its 5<sup>th</sup> meeting held during 21<sup>st</sup> & 22<sup>nd</sup> December, 2023 through Video conferencing on the information submitted and as presented by the project proponent recommended the proposal for grant of Environment Clearance along with Specific Environment Clearance conditions. Based on recommendation of EAC, Ministry, hereby accords approval for grant of Environment Clearance to M/s Gujarat Mineral Development Corporation Ltd for Surkha (N) Lignite Mine Project under the provisions of EIA Notification, 2006 and subsequent amendments/circulars thereto along with following specific EC conditions and standard EC conditions (Annexure 1):

**Specific EC conditions:**

- i. PP shall obtain CTE/CTO from State Pollution Control Board for 5 MTPA production capacities for Lignite mine (as well CTO for Pyrite plant with capacity of 3 MTPA).

- ii. PP should complete the construction of retaining wall around the OB bump before March, 2024.
- iii. PP should not divert any stream/nallah passing through the ML area before 2039. Adequate streams protection measures to be taken by constructing embankment all along the river and safety zone to be provided from OB dump. No untreated effluent/mine water shall be entered in to the streams. PP shall ensure the natural flow is not affected with adequate monitoring quantity and quality at u/s and d/s of streams.
- iv. PP shall comply the partial/non-compliance EC conditions highlighted by Ministry's Regional Office and submit its report within six months to IRO.
- v. PP shall use nearest Railway siding for maximum coal transportation and in future coal transportation through road shall be completely stopped. PP shall prevent transportation through forest area and other sensitive locations.
- vi. PP shall install mechanized equipment as much as possible within the mine in order to reduce the dust emission.
- vii. PP shall obtain No Objection Certificate from Central Ground Water Authority for extraction of ground water.
- viii. PP shall monitor regularly water levels in open dug wells located in village and by establishing Piezometer to ascertain the impact of mining over ground water table and to plan mitigative measures to recharge the area.
- ix. PP shall implement the activities-wise proposed budget for Public Hearing Budget (as **Annexure II**) and Capital cost of Rs. 319.05 Lakh (as EMP cost mentioned in the Annexure II) in time bound manner same has been mentioned in above para 5.1.3 of the published minutes. The details of annual expenditure incurred shall be part of report to be submitted to IRO, MoEF&CC. PP needs to include the audited figures against the expenditure and activities to be monitored by through dedicated monitoring mechanism. The maintenance of all activities shall be covered through recurring cost of Public Hearing, and continued as a part of CSR budget.
- x. PP shall develop 6 nos. of rain water harvesting pond (100 m, width will be 10 m and the depth will be 3 m) as proposed by PP near the villages of stated area in consultation with Gram Panchayat within 1 year. Also, Indicator aquatic species shall be planted in this water bodies to see the environmental quality. PP shall own water bodies/pond currently present in project area, maintain and regularly monitor the quality for its long term protection.
- xi. PP shall implement Water distribution system in near villages. A proper water pipeline distribution network shall be devised to meet the demands of farmers related to irrigation and recharging of ponds, wherever required. The water treatment plant to meet the requirement with the start of production.

- xii. PP shall deposit the approved amount as proposed for wildlife conservation plan to the State Govt. Forest & Environment Dept. and further consult with State Biodiversity Authority for its CSR activity.
- xiii. PP shall conduct third party audit of compliance of EC condition at an interval six months and its report shall be submitted to IRO, MoEF&CC.
- xiv. The status of mine closure activities must be included in every six months' compliance report submitted to the state pollution control board and IRO.
- xv. Sufficient nos. of fog cannons of atleast 40 mtrs throw shall be installed at coal storage yard, in nearby villages and along the transportation route. Main haul road in the mine shall be provided with permanent water sprinklers, and other roads shall be regularly wetted with water tankers fitted with sprinklers. Also PP shall install Mist Cannon Dust Suppression Systems (distance 80-100 mtrs.) at Coal Stock Yard to suppress the dust particles.
- xvi. PP shall transport the coal by trucks of fleet size 35-40 tons (Payload) and no village road or sensitive location shall be used for transportation of coal.
- xvii. PP shall maintain at least 10 mtrs width tree plantation of broad leaves and wind break/green-shield of about 10 mts height along the boundary of coal storage yard.
- xviii. PP to plant additional 100,000 plants with three tier plantation along the transportation route, if not completed, and identified areas with consent to the gram panchayat within two year and plant for remaining within 2 years for their proper growth in additional already committed to plant to plantation in 10 ha of project area.
- xix. PP shall implement air pollution mitigation measures near the villages, located at coal storage yard within mine lease area.
- xx. PP shall follow the recommendation of subsidence study and monitor the degree of subsidence regularly and shall be submitted to IRO.
- xxi. PP shall implement Effluent Treatment Plant for wastewater generated from workshop and Sewage Treatment Plan for its colony. No untreated water shall be discharged from mine boundaries to ponds/nallah/river.
- xxii. PP shall deploy atleast 20% of overall fleet of dumpers/trucks as electrical or CNG/LNG based dumpers/trucks for transportation of coal/OB etc.
- xxiii. PP to install solar lights along the road used for transportation of minerals to avoid the accidents at night and also seek its maintenance. PP is asked to also identify the rural areas for installation of solar light with its maintenance within the study area of 10 km radius buffer zone within one year.

- xxiv. PP to provide bio toilets to the villages located within the study areas within 1 year from the grant of this EC.
- xxv. Persons of nearby villages shall be given training on livelihood and skill development to make them employable with its proper records.
- xxvi. PP shall pay to farmers of agricultural land if there is any loss due to pollution found by concerned District Commissioner as per extent rules or norms.
- xxvii. PP shall reduce the carbon footprint after sequestration of CO<sub>2</sub>. IRO will review the progress of CO<sub>2</sub> sequestration. The process of sequestration of CO<sub>2</sub> will include the planting trees, by "Developing carbon capture and storage (CCS) technologies" and implementation of renewable energy. Further, PP shall carry out enough plantation to ensure carbon sequestration lost due to deforestation and other fossil fuel based activities.
- xxviii. PP to maintain the transportation road properly to minimize the dust emission. PP to also develop pucca/concrete roads by seeking consent from the panchayat with widening of roads especially roads inter linking the villages within the study area of 10 km radius buffer zone.
- xxix. PP to monitor the water quality of the ground water and surface water body located within the core zone and 5 km radius from the periphery of the mine boundary as per procedure laid down by CPCB.
- xxx. PP to install 1 continuous ambient air quality monitoring stations at suitable locations preferably village side with consultation of SPCB. The real time data so generated shall be uploaded on company website and linked it with website of CPCB & SPCB. In addition, data should also be displayed digitally at entry and exit gate of mine lease area for public display.
- xxxi. PP must convert OB dump area into grassland area for grazing purpose of local animals.
- xxxii. Proponent shall appoint an Occupational Health Specialist for Regular and Periodical medical examination of the workers engaged in the Project and maintain records accordingly; also, Occupational health check-ups for workers having some ailments like BP, diabetes, habitual smoking, etc. shall be undertaken once in six months and necessary remedial/preventive measures taken accordingly. The Recommendations of National Institute for ensuring good occupational environment for mine workers shall be implemented. The prevention measure for burns, malaria and provision of anti-snake venom including all other paramedical safeguards may be ensured before initiating the mining activities.
- xxxiii. PP should establish in house (at project site) environment laboratory for measurement of environment parameter with respect to air quality and water (surface and ground. A

dedicated team to oversee environment management shall be setup which should comprise of Environment Engineers, Laboratory chemist and staff for monitoring of air, water quality parameters on routine basis. Any non- compliance or infringement should be reported to the concerned authority.

7. The proponent shall obtain all necessary clearances/approvals that may be required before the start of the project.
8. The Ministry or any other competent authority may stipulate any further condition for environmental protection.
9. 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.
10. 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:**
  - a) 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.
  - b) 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.

- c) 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.
- d) 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.
- e) 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.
- f) 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.

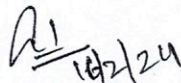
16. This issue with an approval of the Competent Authority.

  
(Amit Vashishtha)

Scientist E/Additional Director

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, Regional Office, Gandhi Nagar A wing- 407 & 409, Aranya Bhawan, Near CH-3 Circle, Sector-10A, Gandhi Nagar-382010.
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, West Central Region, Swami Narayan College Building, Shah Alam Tolnaka, Ahmedabad - 380 022 Gujarat The Chairman, Gujarat Pollution Control Board, Paryavaran Bhavan, Sector-10A,, Gandhinagar-382010.
5. The Member Secretary, Gujarat Pollution Control Board, Paryavaran Bhavan, Sector-10A, Gandhinagar-382010
6. The District Collector, **Bhavnagar**, Government of Gujarat
7. PARIVESH Portal

  
(Amit Vashishtha)

Scientist E/Additional Director

## Annexure I

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

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

**(a) Statutory compliance**

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

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

- (i) Continuous ambient air quality monitoring stations as prescribed in the statute be established in the core zone as well as in the buffer zone for monitoring of pollutants, namely PM<sub>10</sub>, PM<sub>2.5</sub>, SO<sub>2</sub> and NO<sub>x</sub>. Location of the stations shall be decided based on the meteorological data, topographical features and environmentally and ecologically sensitive targets in consultation with the State Pollution Control Board. Online ambient air quality monitoring stations may also be installed in addition to the regular monitoring stations as per the requirement and/or in consultation with the SPCB. Monitoring of heavy metals such as Hg, As, Ni, Cd, Cr, etc to be carried out at least once in six months.
- (ii) The Ambient Air Quality monitoring in the core zone shall be carried out to ensure the Coal Industry Standards notified vide GSR 742 (E) dated 25<sup>th</sup> September, 2000 and as amended from time to time by the Central Pollution

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

- (iii) Transportation of coal, to the extent permitted by road, shall be carried out by covered trucks/conveyors. Effective control measures such as regular water/mist sprinkling/rain gun etc shall be carried out in critical areas prone to air pollution (with higher values of PM<sub>10</sub>/PM<sub>2.5</sub>) such as haul road, loading/unloading and transfer points. Fugitive dust emissions from all sources shall be controlled regularly. It shall be ensured that the Ambient Air Quality parameters conform to the norms prescribed by the Central/State Pollution Control Board.
- (iv) The transportation of coal shall be carried out as per the provisions and route envisaged in the approved Mining Plan or environment monitoring plan. Transportation of the coal through the existing road passing through any village shall be avoided. In case, it is proposed to construct a 'bypass' road, it should be so constructed so that the impact of sound, dust and accidents could be appropriately mitigated.
- (v) Vehicular emissions shall be kept under control and regularly monitored. All the vehicles engaged in mining and allied activities shall operate only after obtaining 'PUC' certificate from the authorized pollution testing centres.
- (vi) Coal stock pile/crusher/feeder and breaker material transfer points shall invariably be provided with dust suppression system. Belt-conveyors shall be fully covered to avoid airborne dust. Side cladding all along the conveyor gantry should be made to avoid air borne dust. Drills shall be wet operated or fitted with dust extractors.
- (vii) Coal handling plant shall be operated with effective control measures w.r.t. various environmental parameters. Environmental friendly sustainable technology should be implemented for mitigating such parameters.

**(c) Water quality monitoring and preservation**

- (i) The effluent discharge (mine waste water, workshop effluent) shall be monitored in terms of the parameters notified under the Water Act, 1974 Coal Industry Standards vide GSR 742 (E) dated 25<sup>th</sup> September, 2000 and as amended from time to time by the Central Pollution Control Board.
- (ii) The monitoring data shall be uploaded on the company's website and displayed at the project site at a suitable location. The circular No. J- 20012/1/2006-IA.11 (M) dated 27<sup>th</sup> May, 2009 issued by Ministry of Environment, Forest and Climate Change shall also be referred in this regard for its compliance.
- (iii) Regular monitoring of ground water level and quality shall be carried out in and around the mine lease area by establishing a network of existing wells and constructing new piezometers during the mining operations. The monitoring of ground water levels shall be carried out four times a year i.e. pre-monsoon, monsoon, post-monsoon and winter. The ground water quality shall be monitored once a year, and the data thus collected shall be sent regularly to MOEFCC/RO.
- (iv) Monitoring of water quality upstream and downstream of water bodies shall be carried out once in six months and record of monitoring data shall be maintained and submitted to the Ministry of Environment, Forest and Climate Change/Regional

Office.

- (v) Ground water, excluding mine water, shall not be used for mining operations. Rainwater harvesting shall be implemented for conservation and augmentation of ground water resources.
- (vi) Catch and/or garland drains and siltation ponds in adequate numbers and appropriate size shall be constructed around the mine working, coal heaps & OB dumps to prevent run off of water and flow of sediments directly into the river and water bodies. Further, dump material shall be properly consolidated/compacted and accumulation of water over dumps shall be avoided by providing adequate channels for flow of silt into the drains. The drains/ ponds so constructed shall be regularly desilted 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 the toe of the dump and adjacent field/habitation/water bodies.
- (vii) Adequate groundwater recharge measures shall be taken up for augmentation of ground water. The project authorities shall meet water requirement of nearby village(s) after due treatment conforming to the specific requirement(standards).
- (viii) Industrial waste water generated from CHP, workshop and other waste water, shall be properly collected and treated so as to conform to the standards prescribed under the standards prescribed under Water Act 1974 and Environment (Protection) Act, 1986 and the Rules made there under, and as amended from time to time. Adequate ETP /STP needs to be provided.
- (ix) The water pumped out from the mine, after siltation, shall be utilized for industrial purpose. watering the mine area, roads, green belt development etc. The drains shall be regularly desilted particularly after monsoon and maintained properly.
- (x) The surface drainage plan including surface water conservation plan for the area of influence affected by the said mining operations, considering the presence of river/rivulet/pond/lake etc, shall be prepared and implemented by the project proponent. The surface drainage plan and/or any diversion of natural water courses shall be as per the approved Mining Plan/EIA/EMP report and with due approval of the concerned State/GoI Authority. The construction of embankment to prevent any danger against inrush of surface water into the mine should be as per the approved Mining Plan and as per the permission of DGMS or any other authority as prescribed by the law.
- (xi) The project proponent shall take all precautionary measures to ensure riverine/riparian ecosystem in and around the coal mine up to a distance of 5km. A riverine/riparian ecosystem conservation and management plan should be prepared and implemented in consultation with the irrigation / water resource department in the state government.

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

- (i) Adequate measures shall be taken for control of noise levels as per Noise Pollution

- Rules, 2016 in the work environment. Workers engaged in blasting and drilling operations, operation of HEMM, etc shall be provided with personal protective equipments (PPE) like ear plugs/muffs in conformity with the prescribed norms and guidelines in this regard. Adequate awareness programme for users to be conducted. Progress in usage of such accessories to be monitored.
- (ii) Controlled blasting techniques shall be practiced in order to mitigate ground vibrations, fly rocks, noise and air blast etc., as per the guidelines prescribed by the DGMS.
  - (i) The noise level survey shall be carried out as per the prescribed guidelines to assess noise exposure of the workmen at vulnerable points in the mine premises, and report in this regard shall be submitted to the Ministry/RO on six-monthly basis.
- (e) Mining Plan**
- (i) Mining shall be carried out under strict adherence to provisions of the Mines Act 1952 and subordinate legislations made there-under as applicable.
  - (ii) Mining shall be carried out as per the approved mining plan (including Mine Closure Plan) abiding by mining laws related to coal mining and the relevant circulars issued by Directorate General Mines Safety (DGMS).
  - (iii) No mining shall be carried out in forest land without obtaining Forestry Clearance as per Forest (Conservation) Act, 1980.
  - (ii) Efforts should be made to reduce energy and fuel consumption by conservation, efficiency improvements and use of renewable energy.
- (f) Land reclamation**
- (i) Digital Survey of entire lease hold area/core zone using Satellite Remote Sensing survey shall be carried out at least once in three years for monitoring land use pattern and report in 1:50,000 scale or as notified by Ministry of Environment, Forest and Climate Change (MOEFCC) from time to time shall be submitted to MOEFCC/Regional Office (RO).
  - (ii) The final mine void depth should preferably be as per the approved Mine Closure Plan, and in case it exceeds 40 m, adequate engineering interventions shall be provided for sustenance of aquatic life therein. The remaining area shall be backfilled and covered with thick and alive top soil. Post-mining land shall be rendered usable for agricultural/forestry purposes and shall be diverted. Further action will be treated as specified in the guidelines for Preparation of Mine Closure Plan issued by the Ministry of Coal dated 27<sup>th</sup> August, 2009 and subsequent amendments.
  - (iii) The entire excavated area, backfilling, external OB dumping (including top soil) and afforestation plan shall be in conformity with the "during mining"/"post mining" land-use pattern, which is an integral part of the approved Mining Plan and the EIA/EMP submitted to this Ministry. Progressive compliance status vis-a-vis the post mining land use pattern shall be submitted to the MOEFCC/RO.
  - (iv) Fly ash shall be used for external dump of overburden, backfilling or stowing of mine as per provisions contained in clause (i) and (ii) of subparagraph (8) of fly ash notification issued vide SO 2804 (E) dated 3<sup>rd</sup> November, 2009 as amended from time to time. Efforts shall be made to utilize gypsum generated from Flue Gas

Desulfurization (FGD), if any, along with fly ash for external dump of overburden, backfilling of mines. Compliance report shall be submitted to Regional Office of MoEF&CC, CPCB and SPCB.

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

- the action plan submitted with budgetary provisions during the public hearing. Land oustees shall be compensated as per the norms laid down in the R&R policy of the company/State Government/Central Government, as applicable.
- (v) The project proponent shall follow the mitigation measures provided in this Ministry's OMNo.Z-11013/5712014-IA.II (M) dated 29<sup>th</sup> October, 2014, titled 'Impact of mining activities on habitations-issues related to the mining projects wherein habitations and villages are the part of mine lease areas or habitations and villages are surrounded by the mine lease area'.
- (i) Corporate Environment Responsibility**
- (i) The project proponent shall comply with the provisions contained in this Ministry's OM vide F.No.22-65/2017-IA.III dated 1<sup>st</sup> May 2018, as applicable, regarding Corporate Environment Responsibility.
- (ii) The company shall have a well laid down environmental policy duly approved by the Board of Directors. The environmental policy should prescribe for standard operating procedures to have proper checks and balances and to bring into focus any infringements/deviation/violation of the environmental/forest/wildlife norms/conditions. The company shall have defined system of reporting infringements/deviation/violation of the environmental/forest/wildlife norms/conditions and/or shareholder's/stake holders.
- (iii) A separate Environmental Cell both at the project and company head quarter level, with qualified personnel shall be set up under the control of senior Executive, who will directly to the head of the organization.
- (iv) Action plan for implementing EMP and environmental conditions along with responsibility matrix of the company shall be prepared and shall be duly approved by competent authority. The year wise funds earmarked for environmental protection measures shall be kept in separate account and not to be diverted for any other purpose. Year wise progress of implementation of action plan shall be reported to the Ministry/Regional Office along with the Six Monthly Compliance Report.
- (v) Self-environmental audit shall be conducted annually. Every three years third party environmental audit shall be carried out.
- (j) Miscellaneous**
- (i) The project proponent shall make public the environmental clearance granted for their project along with the environmental conditions and safeguards at their cost by prominently advertising it at least in two local newspapers of the District or State, of which one shall be in the vernacular language within seven days and in addition this shall also be displayed in the project proponent's website permanently.
- (ii) The copies of the environmental clearance shall be submitted by the project proponents to the Heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt.
- (iii) The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and update the same on half-yearly basis.
- (iv) The project proponent shall monitor the criteria pollutants level namely; PM10, SO<sub>2</sub>, NO<sub>x</sub> (ambient levels) or critical sectoral parameters, indicated for the projects

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

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

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**Annexure II**

(A) PP has submitted EMP cost for 319.05 ha including capital & recurring cost for 5 years are as follows:

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

(B) PP has submitted the following Public Hearing budget as follows:

Fund allocation for Public Hearing issues compliance					
YEAR	2022-23		2023-24	Remarks	
Description	Allocated (Rs. in Lakhs)	Actual Exp. (Rs. In Lakhs)	Proposed (Rs. in Lakhs)	Particular point no. as per public hearing proceeding documents	Timeline
For Land Care to Farmers	6.14	6.14	6.14	1 & 4	March-2024
Plantation/Green Belt Development	61.57	26.82	77.6	1,3 & 6	March-2025
Clearing of Bushes for Villagers	0	0.19	as per requirement	2	Completed
Plantation Maintenance	15.6	10.4	30	6	March-2024
Check dam	0	47.22	as per requirement	6,8	Completed
Protection wall	0	0	30	5	March-2025
Air Pollution Monitoring & Control	4.9	2.86	210	7	March-2025
RO Plant for Mine Water Treatment	0	380	0	2,7,8	Completed
Land Acquisition	13281	0	13281	9, 19	March-2025
CSR Expenses for Education/ Sports etc.	57.33	57.33	60	10 & 11	March-2025
CSR Expense for Stationary/ Cupboards etc.	2.84	2.84	3	11	March-2024
Water Conservation	0	25.27	as per requirement	8	Completed
Water Monitoring and Analysis	3.3	2.65	5	14	March-2024
Peacock Conservation Plan	0	0	5	Written representation from Village Development Jagruti Abhiyan	March-2025
<b>TOTAL</b>	<b>13432.68</b>	<b>561.72</b>	<b>13707.74</b>		