



Government of India  
Ministry of Environment, Forest and Climate Change  
(Impact Assessment Division)

To,

The GENERAL MANAGER  
BHUBANESWARI OC EXPANSION MAHANADI COALFIELDS LIMITED  
OFFICE OF THE GENERAL MANAGER, BHUBANESWARI AREA, DERA  
COLLIERY, TALCHER, DIST- ANGUL, ODISHA-759103,,Anugul,Orissa-  
759103

**Subject:** Grant of Environmental Clearance (EC) to the proposed Project Activity  
under the provision of EIA Notification 2006-regarding

Sir/Madam,

This is in reference to your application for Environmental Clearance (EC)  
in respect of project submitted to the Ministry vide proposal number  
IA/OR/CMIN/416178/2023 dated 21 Feb 2023. The particulars of the environmental  
clearance granted to the project are as below.

- |   |  |
|---|--|
| 1. EC Identification No.                      | EC23A001OR114407   |
| 2. File No.                                   | J-11015/280/2013-IA.II(M)                                |
| 3. Project Type                               | Expansion  |
| 4. Category                                   | A  |
| 5. Project/Activity including<br>Schedule No. | 1(a) Mining of minerals                                  |
| 6. Name of Project                            | Bhubaneswari Opencast Expansion<br>Project               |
| 7. Name of Company/Organization               | BHUBANESWARI OC EXPANSION<br>MAHANADI COALFIELDS LIMITED |
| 8. Location of Project                        | Orissa   |
| 9. TOR Date                                   | N/A  |

The project details along with terms and conditions are appended herewith from page  
no 2 onwards.

Date: 13/11/2023

(e-signed)  
Lalit Bokolia  
Scientist F  
IA - (Coal Mining sector)

*Note: A valid environmental clearance shall be one that has EC identification  
number & E-Sign generated from PARIVESH. Please quote identification  
number in all future correspondence.*

*This is a computer generated cover page.*



**File No. J-11015/159/2015-IA-II (M)**  
Government of India  
Ministry of Environment, Forest and Climate Change  
(Impact Assessment Division)

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Email: [lk.bokolia@nic.in](mailto:lk.bokolia@nic.in); Tel: 011-20819417

**Dated: 10<sup>th</sup> November, 2023**

To,

The General Manager  
M/s Mahanadi Coalfields Limited  
Bhubaneswari Area, Dera Colliery,  
Angul-759103 (Odisha)  
E-mail: [bbsriocexpansion@gmail.com](mailto:bbsriocexpansion@gmail.com)

**Sub: Expansion of Bhubaneswari Opencast Coal Mine for increase in production capacity from 28 MTPA to 30 MTPA (increase of 10% w.r.t 20 MTPA) in mine lease area of 638.341 Ha by M/s Mahanadi Coalfields Ltd., located in the village Jilinda, Hensmul (Sharasahi), Hensmul (Talasahi), Naraharipur, Khandualbhal, Kandhal, Madanmohanpur, Langijoda and Anadipur, Tehsil TalcherSadar, District Angul (Odisha) – Reconsideration for Environmental Clearance under OM vide no. F. No. IA 3-22/10/2022 – IA.III 07.05.2022 [Availing total 50% relaxation of OM dealing with exemption of public hearing under clause 7 (ii) of EIA notification] – reg.**

Sir,

This has reference to your online proposal No. IA/OR/CMIN/416178/2023 dated 29<sup>th</sup> January, 2023 for grant of Environmental Clearance to the above project.

2. The Ministry of Environment, Forest and Climate Change has considered the application. It is noted that the proposal is for grant of Environmental Clearance to the project Expansion of Bhubaneswari Opencast Coal Mine for increase in production capacity from 28 MTPA to 30 MTPA (increase of 10% w.r.t 20 MTPA) in mine lease area of 638.341 Ha by M/s Mahanadi Coalfields Ltd., located in the village Jilinda, Hensmul (Sharasahi), Hensmul (Talasahi), Naraharipur, Khandualbhal, Kandhal, Madanmohanpur, Langijoda and Anadipur, Tehsil TalcherSadar, District Angul (Odisha), as per Ministry's OM dated 07.05.2022.

The project/activity is covered under category 'A' of item1(a) 'Mining of Minerals' the Schedule to the EIA Notification, 2006

3. The proposal was considered by the sectoral Expert Appraisal Committee (EAC) in its 50<sup>th</sup> EAC Meeting on 27<sup>th</sup> September, 2023 through video Conferencing. The details of the proposal, as ascertained from the proposal documents and as revealed from the discussions held during the meetings, are given as under: -

*EC to Expansion of Bhubaneswari Opencast mine of M/s MCL*

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- (i) The project area is covered under Survey of India Topo Sheet No F45T1 on R.F 1:50000 and special toposheet nos. D1, D2, E1& E2 on R.F 1:10000. and is bounded by the geographical coordinates ranging from latitude 20°57'58.03"N to 20°59'17.44"N and longitudes 85° 8'26.86"E to 85° 11'5.73"E.
- (ii) Coal linkage of the project: Power Plants and basket linkage.
- (iii) Joint venture cartel has been formed: Not Applicable
- (iv) Project does not fall in the Critically Polluted Area (CPA), where the MoEF & CC vide its OM dated 13th January, 2010 has imposed moratorium on grant of environment clearance.
- (v) Employment generation: Approximately 1007 nos. of direct employment already generated.
- (vi) The project is reported to be beneficial in terms of: Improvement in Physical Infrastructure, Improvement in Social Infrastructure, Increase in employment potential, Contribution to the Exchequer (both State and Central Govt.), Post mining enhancement of Green Cover, Improvement of Electrical Power Generation & availability of electricity for 24x7 in rural areas and Overall economic growth of the country.
- (vii) The proposal is for grant of EC expansion in production capacity from 28 MTPA to 30 MTPA in ML area 638.341 Ha. in accordance with the OM. vide no F.No. IA3-22/10/2022-IA.III [E177258] dated 07-05-2022.
- (viii) EC granted on MoEF & CC F.No. J-11015/280/2013-IA-II(M) Pt. Dt.25-07-2022 for 30 MTPA
- (ix) Total mining lease area as per block allotment is 638.341 Ha. Mining Plan was approved by MCL Board in its 249<sup>th</sup> Board meeting held on 05.07.2022
- (x) Total geological reserve was 420.77 MT. The mineable reserve 365.98 MT, balance extractable reserve is 93.92MT with per cent of extraction as 86.98%.
- (xi) 13 seams with average thickness 95.30 m. The coal grade is average G11 to G13. The stripping ratio is 1.40 cum/tonne. The average gradient is 2° to 7°.
- (xii) The method of mining would be Opencast by Shovel - Dumper/ Ripper-dozers in OB/ parting; Surface miner, pay loader & tipper in coal.
- (xiii) The life of mine is 4 Years.
- (xiv) There is one external OB dump with Quantity of 37.0Mcum in an area of 94.0Ha. The external dump area is now being re-handled into mine voids.
- (xv) Total quarry area is 583.752 ha out of which backfilling will be done in 326.844Ha. While unfilled mine void will be created in an area of 242.808 Ha is for future expansion and same will be partially planted or grass carpeted. Final mine void with a maximum depth of 30m. Backfilled quarry area of 326.844Ha shall be reclaimed with plantation/grass/agriculture. Final mine void will be converted into a water body.
- (xvi) The entire coal production of 30.0Mty will be by Surface Miner. The coal will be dispatched through rail and road mode.
- (xvii) Reclamation Plan in an area of 389.71Ha, comprising of 326.844 Ha of internal dump, 29.920Ha of built-up area and 10.0Ha of green belt, etc.
- (xviii) The total forest area involved in the project is 112.521 Ha. for which stage II FC has already been granted by vide letter 8-18/2002/89-FC, Dt-06.12.2004, Government of India MoEF& CC.
- (xix) No National Parks, Wildlife Sanctuaries and Eco-Sensitive Zones have been reported with 10 km boundary of the project.
- (xx) Wildlife Conservation plan: Habitat management prepared by PCCF (wildlife), Odisha

vide letter no: 3090/3WL-(Cons)33/04, dated, Bhubaneswar, dated 06/07/2004.

- (xxi) Total estimated water requirement is 5516 m<sup>3</sup>/day. The level of ground water ranges from 1.36mbgl to 9.30mbgl.
- (xxii) NOC from the Central Ground Water Authority has been obtained vide CGWA/NOC/MIN/ORIG/2020/9378 dated 16.12.2020. Application for renewal is under process at CGWA.
- (xxiii) The public hearing for Bhubaneswari Opencast Project of coal production capacity 20.00 MTPA of Mis Mahanadi Coalfields Limited' was conducted at Jagannath Kalakendra, Jagannath area 10.02.2009, at 10.00 AM. Additional District Magistrate supervised and presided over the Public Hearing Process. The issues raised during Public Hearing were regarding Employment, Supply of drinking water, blasting vibration, Plantation, dust in pond in core zone, dust suppression & sprinkling on peripheral roads. All the issues have been addressed.
- (xxiv) Consent to operate (CTO) is already obtained from the State Pollution Control Board and valid up to 31.03.2024.
- (xxv) No stream is flowing through the ML Area. Hence, no diversion is proposed.
- (xxvi) Regular monitoring of ambient air quality is being and will be carried out on fortnightly basis. The documented report is being and will be submitted to Regional Office, MoEF&CC, and Bhubaneswar and also to MoEF&CC along with half yearly EC compliance report.
- (xxvii) No court cases are pending in the court.
- (xxviii) The project does not involve violation of the EIA Notification, 2006 and amendment issued there under.
- (xxix) The project involves 1242 project affected families. R&R of the PAPs is being done as per Orissa Rehabilitation and Resettlement Policy 2006. Employment already provided to 1007 persons. Cash in lieu of employment provided to 35 persons and rest 13 are under process.
- (xxx) Total capital cost of the project is Rs. 490.10 Crores. CSR Cost - 2% of the average net profit of the company for the three immediately preceding financial years or Rs. 2.00 per tonne of coal production of the previous year whichever is higher. R&R Cost Rs. 29.51 Crores. Environmental Management Cost – Rs. 71.41 Crores.

4. In the instant project, earlier Environmental Clearance for expansion of Bhubneswari Opencast coal mining project was granted in advance under OM vide no. F. No. [A3-22/10/2022-IA.III dated 07.05.2022- [Availed total 50% relaxation of OM under clause 7 (ii) of EIA notification] in view of shortage of coal. The EC was granted subject to certain condition such as submission of EIA-EMP report within six months for appraisal of EAC along with other statutory requirement mentioned therein.

5. The Expert Appraisal Committee in its 50<sup>th</sup> EAC Meeting held on 27<sup>th</sup> September, 2023 through video Conferencing has recommended the project for grant of Environment Clearance (EC). Based on recommendations of the EAC, Ministry of Environment, Forest and Climate Change hereby accords approval for Environment Clearance(EC) to **Expansion of Bhubaneswari Opencast Coal Mine for increase in production capacity from 28 MTPA to 30 MTPA (increase of 10% w.r.t 20 MTPA) in mine lease area of 638.341 Ha by M/s Mahanadi Coalfields Ltd., located in the village Jilinda, Hensmul (Sharasahi), Hensmul (Talasahi), Naraharipur,**

*EC to Expansion of Bhubaneswari Opencast mine of M/s MCL*

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**Khandualbhal, Kandhal, Madanmohanpur, Langijoda and Anadipur, Tehsil Talcher Sadar, District Angul (Odisha) under OM vide no. F. No. IA 3-22/10/2022 – IA.III 07.05.2022 [Availing total 50% relaxation of OM dealing with exemption of public hearing under clause 7 (ii) of EIA notification],** under the provisions of the Environment Impact Assessment Notification, 2006 and subsequent amendments/circulars thereto subject to the compliance of the following terms & conditions / specific conditions in addition to the standard environmental conditions notified by the Ministry as under :-

- i. PP shall commission the mechanized system for 28 MTPA (i.e. ~92% of 30MTPA) before November 2023 and for the rest 2 MTPA (i.e. ~8% of 30 MTPA) by road through automatic truck loading system linked with SILO arrangement. Accordingly, SPCB shall issue the CTO.
- ii. PP shall construct dedicated road away from the villages and sensitive location like school and hospitals for the transportation of 2 MTPA (i.e. ~8% of 30 MTPA) coal through 40 tonne (payload) of truck size.
- iii. PP shall technically and biologically reclaim the area of 150 ha as proposed within one year i.e. till October, 2024 and certificate shall be submitted to Ministry's IRO.
- iv. PP shall install additional online CAQMS for air quality measurement by November 2023. Data so generated from online CAAQMS shall be connected with servers of SPCB/CPCB and report to be submitted to IRO, MoEF&CC.
- v. PP shall provide the unpaved road to paved one in order to reduce the emission of fugitive dust.
- vi. The PP shall implement the following air pollution control measures within six-month and a progressive report to be submitted to IRO, MoEF&CC:

S. No.	Particulars of air pollution control measures	Qty. Deployed (Nos./ units)
1	Mobile Water mist sprinklers with fire-fighting arrangement (28 KL VOLVO FMX-460)	01
2	Mobile Fog cannon	03
3	Pipeline arrangement with fixed nozzles for fire-fighting and dust suppression	06
4	Static Fog cannons	10
5	Vertical Greenery Barrier	800m
6	Wheel Washing Unit	01
7	Fixed type sprinklers	25

- vii. PP to resolve suggestions/objections raised during the public hearing with activities-wise proposed budget of Rs. 384.99 Cr. (as estimated budget proposed in upcoming years' part of Public Hearing) as per the table below. The details of annual expenditure shall be part of report submitted to IRO, MoEF&CC. PP needs to include the audited figures against the expenditure and activities to be monitored by through dedicated monitoring mechanism. The maintenance of all activities shall be covered through recurring cost of Public Hearing, which will be part of CSR budget.

S. No.	Heads under Public hearing	Expenditure incurred till dated in addressing the issues in Rs. (Cr)	Estimated budget proposed in upcoming years in Rs. (Cr)
1	Employment	79.79	14.76
2	Drinking Water & Maintenance of Village ponds	10.56	07.01
3	Pollution control measures	27.35	318.15
4	Peripheral & Mine Plantation	4.53	45.00
5	Pollution control on peripheral Roads	0.05	0.07
<b>Total</b>		<b>122.28</b>	<b>384.99</b>

- viii. PP shall construct STP for the villages located inside the Core zone of the ML area such as Kandhal, Madanmohanpur and Anadipur village.
- ix. PP shall protect/preserve 5 ha Sal nursery with capacity of approximately 50,000 Sal saplings and yearly minimum 10,000 saplings to be distributed among near villagers for afforestation purpose.
- x. PP shall submit audit report (of next phase) for progressive mine closure beyond the 2015-16 to till date to IRO, MoEF&CC.
- xi. PP shall monitor the functionality of ETP and regular monitoring of effluent on six monthly basis and the progressive reports shall be submitted to the IRO, MoEF&CC.
- xii. PP shall start reclamation of the mine with combination of top soil and Fly ash with the development of grazing facility and other activities to be considered from the progressive mine closure plan.
- xiii. PP shall fulfil the water requirement for agricultural purpose by creating artificial ponds and shall fulfil the drinking water requirement after treatment through dedicated well or alternate sources for villagers.
- xiv. Water storage ponds shall be constructed of appropriate depth in nearby village in collaboration with Gram Panchayat.
- xv. PP shall provide Quarterly health check-up with free medical facilities for the local villager's surrounding to the 10 km buffer area along with the ambulance facilities.
- xvi. PP shall establish a technical training institute in the area to train the local youth for better employment. A report shall be prepared & submitted upon the status of the training session already conducted in order to provide livelihood and skill development to near-by villagers to make them employable.
- xvii. PP needs to submit the compliance of SoP issued by CPCB regarding dumping of mine void with fly ash.

- xxviii. The project proponent shall include development of solar parks, eco-friendly-parks, fish farming pond, picnic spot and sports compound in its Mine Closure Report. Further if possible, maximum possible area of quarry shall be brought upto original ground level and handover the land to Project affected Families.
- xix. Proper garland drain and retaining wall should be made (if required) and same should be revived from time to time.
- xx. PP shall not use the ground water for any type of mine closure activity. PP shall maintain one permanent Piezometer for monitoring of ground water level.
- xxi. PP to complete the tree plantation particularly fruit bearing tree along the village road within six months from date of issue of EC to IRO, MoEF&CC. The plantation shall also be planted along the Mine boundary and Mine pit. A detailed report with GIS images of every six months subsequently be submitted in every six monthly report to justify the adequate tree plantation.
- xxii. PP shall increase number of fixed type sprinkling system (near to haul road, stockyard, transportation route etc.) across the mine lease area in order to arrest the dust coming out from the mining activities.
- xxiii. PP shall install 100 m jet spray length in order to arrest the heavy air pollution on the roads and other dust generating points. More number of Fog cannons, Road sweeper and Mobile water sprinklers to be used on road.
- xxiv. PP shall construct 25-sitting digital library in each village including the daily newspaper facility.
- xxv. PP shall create a "Public Grievance Redressal and Monitoring System" for resolving any issues related to the pollution of mines and complaint has to resolve as soon as possible not beyond 30 days. In this regard, adequate awareness to be spread among the public to address their grievance to company with simple and easy manner and for which company needs to devise the mechanism. The same shall be reported to IRO within 3 months. A logbook to be maintained by PP on "Public Grievance Redressal and Monitoring System."
- xxvi. 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.
- xxvii. The status of mine closure activities must be included in every six months' compliance report submitted to the state pollution control board and IRO.
- xxviii. PP to maintain the topped haul road properly to minimized the dust emission. PP to also develop pucca roads by seeking consent from the panchayat with widening of roads especially roads inter linking the villages within the study area of 10 km radius buffer zone.
- xxix. 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
- xxx. PP to provide bio toilets to the villages located within the study areas within 1 year from the grant of this EC.
- xxxi. 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.
- xxxii. PP shall explore atleast 20% of overall fleet of dumpers/trucks/other vehicles as electrical or CNG/LNG based for transportation of coal/OB etc.

- xxxiii. 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.
- xxxiv. All the other terms and conditions of earlier EC dated 06-06-2003, 30-11-2012 (with Public Hearing), 19-02-2014, 16-02-2018 and 26-07-2022 shall also be complied.

**5.1** The proponent shall abide by all the commitments and recommendations made in the EIA/EMP report and also that during presentation to the EAC.

**(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 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.

(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 de-silted particularly before onset of monsoon and maintained properly. Sump capacity should provide adequate retention period to allow proper settling of silt material. The water so collected in the sump shall be utilised for dust suppression and green belt development and other industrial use. Dimension of the retaining wall constructed, if any, at the toe of the OB dumps within the mine to check run-off and siltation should be based on the rainfall data. The plantation of native species to be made between toe of the dump and adjacent field/habitation/water bodies.

(vii) Adequate groundwater recharge measures shall be taken up for augmentation of ground water. The project authorities shall meet water requirement of nearby village(s) after due treatment conforming to the specific requirement (standards).

(viii) Industrial waste water generated from CHP, workshop and other waste water, shall be properly collected and treated so as to conform to the standards prescribed under the standards prescribed under Water Act 1974 and Environment (Protection) Act, 1986 and the Rules made there under, and as amended from time to time. Adequate ETP /STP needs to be provided.

(ix) The water pumped out from the mine, after siltation, shall be utilized for industrial purpose viz. watering the mine area, roads, green belt development etc. The drains shall be regularly desilted particularly after monsoon and maintained properly.

(x) The surface drainage plan including surface water conservation plan for the area of influence affected by the said mining operations, considering the presence of river/rivulet/pond/lake etc, shall be prepared and implemented by the project proponent. The surface drainage plan and/or any diversion of natural water courses shall be as per the approved Mining Plan/EIA/EMP report and with due approval of the concerned State/GoI Authority. The construction of embankment to prevent any danger against inrush of surface water into the mine should be as per the approved Mining Plan and as per the permission of DGMS or any other authority as prescribed by the law.

(xi) The project proponent shall take all precautionary measures to ensure riverine/riparian ecosystem in and around the coal mine up to a distance of 5 km. A riverine/riparian ecosystem conservation and management plan should be prepared and implemented in consultation with the irrigation / water resource department in the state government.

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

- (i) Adequate measures shall be taken for control of noise levels as per Noise Pollution Rules, 2016 in the work environment. Workers engaged in blasting and drilling operations, operation of HEMM, etc shall be provided with personal protective equipments (PPE) like ear plugs/muffs in conformity with the prescribed norms and guidelines in this regard. Adequate awareness programme for users to be conducted. Progress in usage of such accessories to be monitored.
- (ii) Controlled blasting techniques shall be practiced in order to mitigate ground vibrations, fly rocks, noise and air blast etc., as per the guidelines prescribed by the DGMS.
- (iii) 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.
- (iv) Efforts should be made to reduce energy and fuel consumption by conservation, efficiency improvements and use of renewable energy.

**(f) Land reclamation**

- (i) Digital Survey of entire lease hold area/core zone using Satellite Remote Sensing survey shall be carried out at least once in three years for monitoring land use pattern and report in 1:50,000 scale or as notified by Ministry of Environment, Forest and Climate Change(MOEFCC) from time to time shall be submitted to MOEFCC/Regional Office (RO).
- (ii) The final mine void depth should preferably be as per the approved Mine Closure Plan, and in case it exceeds 40 m, adequate engineering interventions shall be provided for sustenance of aquatic life therein. The remaining area shall be backfilled and covered with thick and alive top soil. Post-mining land be rendered usable for agricultural/forestry purposes and shall be diverted. Further action will be treated as specified in the guidelines for Preparation of Mine Closure Plan issued by the Ministry of Coal dated 27<sup>th</sup> August, 2009 and subsequent amendments.
- (iii) The entire excavated area, backfilling, external OB dumping (including top soil) and afforestation plan shall be in conformity with the “during mining”/”post mining” land-use pattern, which is an integral part of the approved Mining Plan and the EIA/EMP submitted to this Ministry.

Progressive compliance status vis-a-vis the post mining land use pattern shall be submitted to the MOEFCC/RO.

(iv) Fly ash shall be used for external dump of overburden, backfilling or stowing of mine as per provisions contained in clause (i) and (ii) of subparagraph (8) of fly ash notification issued vide SO 2804 (E) dated 3rd November, 2009 as amended from time to time. Efforts shall be made to utilize gypsum generated from Flue Gas Desulfurization (FGD), if any, along with fly ash for external dump of overburden, backfilling of mines. Compliance report shall be submitted to Regional Office of MoEF&CC, CPCB and SPCB.

(v) Further, it may be ensured that as per the time schedule specified in mine closure plan it should remain live till the point of utilization. The topsoil shall temporarily be stored at earmarked site(s) only and shall not be kept unutilized. The top soil shall be used for land reclamation and plantation purposes. Active OB dumps shall be stabilised with native grass species to prevent erosion and surface run off. The other overburden dumps shall be vegetated with native flora species. The excavated area shall be backfilled and afforested in line with the approved Mine Closure Plan. Monitoring and management of rehabilitated areas shall continue until the vegetation becomes self-sustaining. Compliance status shall be submitted to the Ministry of Environment, Forest and Climate Change/ Regional Office.

(vi) The project proponent shall make necessary alternative arrangements, if grazing land is involved in core zone, in consultation with the State government to provide alternate areas for livestock grazing, if any. In this context, the project proponent shall implement the directions of Hon'ble Supreme Court with regard to acquiring grazing land.

**(g) Green Belt**

(i) The project proponent shall take all precautionary measures during mining operation for conservation and protection of endangered/endemic flora/fauna, if any, spotted/reported in the study area. The Action plan in this regard, if any, shall be prepared and implemented in consultation with the State Forest and Wildlife Department.

(ii) Greenbelt consisting of 3-tier plantation of width not less than 7.5 m shall be developed all along the mine lease area as soon as possible. The green belt comprising a mix of native species (endemic species should be given priority) shall be developed all along the major approach/ coal transportation roads.

**(h) Public hearing and Human health issues**

(i) Adequate illumination shall be ensured in all mine locations (as per DGMS standards) and monitored weekly. The report on the same shall be submitted to this ministry & it's RO on six-monthly basis.

(ii) The project proponent shall undertake occupational health survey for initial and periodical medical examination of the personnel engaged in the project and maintain records accordingly as per the provisions of the Mines Rules, 1955 and DGMS circulars. Besides regular periodic health check-up, 20% of the personnel identified from workforce engaged in active mining operations shall

be subjected to health check-up for occupational diseases and hearing impairment, if any, as amended time to time.

(iii) Personnel (including outsourced employees) working in core zone shall wear protective respiratory devices and shall also be provided with adequate training and information on safety and health aspects.

(iv) Implementation of the action plan on the issues raised during the public hearing shall be ensured. The project proponent shall undertake all the tasks/measures as per the action plan submitted with budgetary provisions during the public hearing. Land oustees shall be compensated as per the norms laid down in the R&R policy of the company/State Government/Central Government, as applicable.

(v) The project proponent shall follow the mitigation measures provided in this Ministry's OM No.Z-11013/5712014-IA.II (M) dated 29<sup>th</sup> October, 2014, titled 'Impact of mining activities on habitations-issues related to the mining projects wherein habitations and villages are the part of mine lease areas or habitations and villages are surrounded by the mine lease area'.

**(i) Corporate Environment Responsibility**

(i) Fund allocation for Corporate Environment Responsibility (CER) shall be made as per Ministry's O.M. No. 22-65/2017-IA.III dated 30th September 2020 and based on commitment made during public consultation process for incorporating in EIA-EMP for deliberation of EAC

(ii) 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.

(iii) A separate Environmental Cell both at the project and company head quarter level, with qualified personnel shall be set up under the control of senior Executive, who will directly to the head of the organization.

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

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

**(j) Miscellaneous**

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

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

(ii) The copies of the environmental clearance shall be submitted by the project proponents to the Heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt.

(iii) The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and update the same on half-yearly basis.

(iv) The project proponent shall monitor the criteria pollutants level namely; PM<sub>10</sub>, SO<sub>2</sub>, NO<sub>x</sub> (ambient levels) or critical sectoral parameters, indicated for the projects and display the same at a convenient location for disclosure to the public and put on the website of the company.

(v) The project proponent shall submit six-monthly reports on the status of the compliance of the stipulated environmental conditions on the website of the ministry of Environment, Forest and Climate Change at environment clearance portal.

(vi) The project proponent shall follow the mitigation measures provided in this Ministry's OM No. Z-11013/5712014-IA.II (M) dated 29<sup>th</sup> October, 2014, titled 'Impact of mining activities on habitations-issues related to the mining projects wherein habitations and villages are the part of mine lease areas or habitations and villages are surrounded by the mine lease area'.

(vii) The project proponent shall submit the environmental statement for each financial year in Form-V to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently and put on the website of the company.

(viii) The project authorities shall inform to the Regional Office of the MOEFCC regarding commencement of mining operations.

(ix) The project authorities must strictly adhere to the stipulations made by the State Pollution Control Board and the State Government.

(x) The project proponent shall abide by all the commitments and recommendations made in the EIA/EMP report, commitment made during Public Hearing and also that during their presentation to the Expert Appraisal Committee.

(xi) No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment, Forests and Climate Change.

(xii) Concealing factual data or submission of false/fabricated data may result in revocation of this environmental clearance and attract action under the provisions of Environment (Protection) Act, 1986.

(xiii) The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.

(xiv) The Ministry reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner shall implement these conditions.

(xv) The Regional Office of this Ministry shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data / information/monitoring reports.

(xvi) The above conditions shall be enforced, inter-alia under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, Hazardous and Other Wastes (Management and Trans-boundary Movement) Rules, 2016 and the Public Liability Insurance Act, 1991 along with their amendments and Rules and any other orders passed by the Hon'ble Supreme Court of India / High Courts and any other Court of Law relating to the subject matter.

6. The proponent shall abide by all the commitments and recommendations made in the EIA/EMP report and also that during presentation to the EAC. All the commitments made on the issues raised during public hearing shall also be implemented in letter and spirit.

7. 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.

8. 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.

9. 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 2<sup>nd</sup> August, 2017 of Hon'ble Supreme Court in WP (Civil) No.114/2014 in the matter of 'Common Cause Vs Union of India & others.

10. 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.

11. 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.

This issues with the approval of the competent Authority



(Lalit Bokolia)  
Director

**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 Chairman, Central Ground Water Authority, Jamnagar House, 18/11, Man Singh Road Area, New Delhi, Delhi 110001
5. The Chairman, Odisha State Pollution Control Board, Parivesh Bhawan, A/118, Nilkanthanagar, Unit VIII, Bhubaneswar - 751012 (Odisha).
6. District Collector, **Angul**, Government of **Odisha**.
7. Monitoring File /Record File 8. PARIVESH Portal



(Lalit Bokolia)