

No.J-11015/280/2013-IA-II(M)pt.
Government of India
Ministry of Environment, Forest and Climate Change
IA-II (Coal Mining) Division

Indira Paryavaran Bhawan,
Jorbagh Road, N Delhi-3
Dated: 16th February, 2018

To,

The Chief General Manager (CP&P)
M/s Mahanadi Coalfields Limited
PO - Jagruti Vihar, Burla,
Sambalpur - 768 020 (Odisha)

E-mail: cgmenvt2014@gmail.com; gmenvt_mcl@yahoo.co.in

Sub: Bhubaneswari Opencast Expansion from 25 MTPA to 28 MTPA in existing ML area of 638.341 ha of M/s Mahanadi Coalfields Ltd. Tehsil Talcher, District Angul (Odisha) - Environmental Clearance - reg.

Sir,

This refers to your letter No.MCL/HQ/Environment/Bhuneswary OCP Expn. Project/17-18/2755 dated 17.11.2017 along with online proposal No. IA/OR/CMIN/71006/2017, dated 23.11.2017 and subsequent letters/email dated 24.11.2017, 27.11.2017, 18.01.2018 and 19.01.2018 on the above-mentioned subject.

2. The proposal is for grant of environmental clearance to the Bhubaneswari Opencast expansion Project from 25 MTPA to 28 MTPA in Mining lease area of 638.341 ha of M/s Mahanadi Coalfield Limited at district Angul (Odisha).

3. The proposal was considered by the Expert Appraisal Committee (EAC) in the Ministry for Thermal & Coal Mining sector in its 22nd meeting held on 27th November, 2017. The details of the project, as per the documents submitted by the project proponent, and also as informed during the meeting, are reported to be as under:-

(i) Earlier, the Environmental Clearance of Bhubaneswari Opencast was accorded by the Ministry vide letter dated 30th November, 2012 for production capacity of 20 MTPA in an area of 808.294 ha. Public Hearing for same was held on 10th February, 2009.

(ii) Further, the project was accorded EC from 20 MTPA to 25 MTPA on 19th February, 2014 under clause 7(ii) of EIA Notification, 2006 in accordance with OM J-11015/30/2004.IA.II(M) dated 19th December, 2012 exempting from fresh public hearing.

(iii) Meanwhile, OM No.J-11015/224/2015-IA.II, dated 15/09/2017, was issued for production capacity expansion up to 40% of PH capacity without Public Hearing with certain conditions. On the basis of the above said OM this proposal has been submitted for grant of EC for expansion of Bhubaneswari opencast coal mine from 25 MTPA to 28 MTPA without public hearing in the existing mine lease area of 638.341 ha.

(iv) To verify the status of compliance of EC conditions for Bhubaneswari opencast expansion project 25 MTPA, the Regional Office of MoEF&CC, Bhubaneswar has carried out

Bhubaneswari OCP 25-28 MTPA of MCL280_2013_EC



the site inspection on 31.10.2017. The monitoring report has been forwarded to this Ministry vide their letter No. 101-980/EPE dated 24.11.2017, which was deliberated in the EAC meeting. The project proponent presented the action taken on each of the observations made by Regional Office during the site visit.

(v) The latitude and longitude of the project are 22° 19" 00" to 22° 19" 30" North and 82° 42" 30" to 82° 44" 30" East respectively.

(vi) Joint Venture: No

(vii) Coal Linkage : Thermal Power Plant & Basket Linkage

(viii) Employment generated / to be generated: Direct employment already provided to 1002 persons further 51 employemnt are in process.

(ix) Benefits of the project: (a) Improvement in Physical Infrastructure (b) Improvement in Social Infrastructure (c) Increase in employment potential (d) Contribution to the Exchequer (both State and Central Govt.) (v) Post mining enhancement of Green Cover (e) Improvement of Electrical Power Generation and availability of electricity for 24x7 in rural areas (f) Overall economic growth of the country.

(x) The land usage of the project will be as follows:

Pre-Mining:

	Type of Land	Area (Ha)
a.	Agriculture	445.030
b.	Forest	112.521
c.	Waste land	---
d.	Grazing	---
e.	Surface water bodies	---
f.	Others (specify)	80.790
	Total	638.341

Post- Mining:

Sl. No.	Category	Land use (in Ha)					Total
		Plant-ation	Water body	Dip side slope and haul road	Undisturbed	Built-up area	
1	Excavation (backfill)	355.517	31.000	55.741	--	--	442.258
2	Danger zone for blasting	83.150	--	--	-	--	83.150
3	External OB dumps	94.000	--	--	--	--	94.000
4	Railway siding	1.600	--	--	--	6.400	8.000
5	Infrastructure	0.850	--	--	--	10.083	10.933
6	Residential colony	6.400	--	--	--	25.600	32.000
7	Rehabilitation site	23.520	0.00	0.00	0.00	94.050	117.570
	Total	565.037	31.000	55.741	0.000	136.133	787.911

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Core area:

Particulars	Existing		
	Forest	Non-Forest	Total
Quarry excavation	105.808	336.450	442.258
Blasting danger zone (excluding the part of OB dump)	--	83.150	83.150
OB dumps (external)	--	94.000	94.000
Railway siding	--	8.000	8.000
Infrastructure	6.713	4.220	10.933
Mine Lease Area	112.521	525.820	638.341*
Residential Colony	--	32.000	32.000
Rehabilitation site	--	117.570	117.570
Outside lease area	--	149.57	149.57
Total	112.521	675.39	787.911

*Out of the total Area of the project mining lease area of 658.724 ha, the project was granted EC for 638.341 Ha. Remainder forest land of 20.383 ha, falling in the excavation area, is non-diverted and the diversion proposal for the same is under progress. This Mining Plan is for the mining lease area of 638.341 Ha inclusive of the forest land 112.51 ha for which EC and FC is already granted. The total land area is 787.911 ha, initially.

(xi) The total geological reserve of the block is 741.09 MT. The minable reserve for the proposed project is 233.39 MT (in 638.314 Ha ML Area in Phase-I) & 259.45 MT(in 658.724 Ha ML Area in Phase- I+II) and extractable reserve is 233.39 MT (in 638.314 Ha ML Area in Phase-I) & 259.45 MT(in 658.724 Ha ML Area in Phase-I+II) (As on 01.04.2017). The percentage extraction would be 100 %.

(xii) The coal grade is G-12 TO G-16. The stripping ratio is 0.71 Cum/tonne. The average Gradient is 4.5°. There will be 15 seams with thickness ranging (0.2 m to 40.90 m).

(xiii) The total estimated water requirement is 2423 m³/day.

(xiv) The level of ground water ranges (0.80 m to 10.90 m bgl).

(xv) The Method of mining would be Open cast mining.

(xvi) There is three external OB dump with Quantity of 35.82 Mcum in an area of 94.00 ha with height of 52 meters above the surface level and one internal dump with Quantity of 212.87 Mcum in an area of 355.517 ha with height Up to ground level in major part, 10 m above ground level at some parts

(xvii) The final mine void would be in 31.00 Ha with depth 187.5 m and the total quarry area is 442.258. Backfilled quarry area of 355.517 Ha shall be reclaimed with plantation. A void of 31.00 ha with depth upto 187.5 m which is proposed to be converted into a water body.

(xviii) The life of mine is 9 Years as on 01.04.2017(Phase-I)

(xix) Transportation: Coal transportation from face to pit top: by trucks. surface to siding: by conveyor to silo ; siding to consumer : rail.

(xx) There is R & R involved. There are 1111 PAFs.

(xxi) Total capital cost of the project is Rs. 490.10 Crores. CSR Cost According to New CSR policy, the fund for the CSR should be allocated based on 2% of the average net profit of the Company for the three immediate preceding financial years or Rs. 2.00 per tonne of coal production of previous year whichever is higher. R&R Cost Rs. 31.22 Crores. Environmental Management Cost Rs. 71.41 Cr.

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(xxii) Bangaru Jhor is flowing adjacent (North), Brahmani River is about 6.0 km (East); Nandira Jhor is located at 9.0 km (South), Singada Jhor is about 12.0 km (West).

(xxiii) Ground water clearance : Not applicable.

(xxiv) Mining plan for the 28 MTPA was approved by MCL Board on 07.11.2017 & by MoC Vide letter no. 34011/36/2017-CPAM dated 20-11-2017. Mine closure plan is an integral part of mining plan.

(xxv) There are no national Parks, wildlife sanctuary, biosphere reserves found in the 10 km buffer zone.

(xxvi) Total forest land 112.521 ha in ML area of 638.341 Ha, Status of Forest clearance: Stage-II available vide letter no.8-18/2002-FC dt: 06-12-2004.

(xxvii) Total afforestation plan shall be implemented covering an area of 355.517 ha at the end of mining including green Belt over an area of 83.15 ha. Density of tree plantation 2500 trees/ ha of plants.

(xxviii) There are no court cases/violation pending with the project proponent.

4. The Expert Appraisal Committee in its 22nd meeting held on 27th November, 2017, has recommended the proposal for grant of Environmental Clearance. Based on recommendations of the EAC, the Ministry of Environment, Forest and Climate Change hereby accords environmental clearance to **Bhubaneshwari Opencast Expansion from 25 MTPA to 28 MTPA in existing ML area of 638.341 ha of M/s Mahanadi Coalfields Ltd. Tehsil Talcher, District Angul (Odisha)**, under the provisions of the Environment Impact Assessment Notification, 2006, read with subsequent amendments/circulars thereto, and subject to compliance of the terms and conditions and environmental safeguards as below:

(i) Adequate ambient air quality monitoring stations shall be established in consultation with the State Pollution Control Board, and regular monitoring shall be carried out for particulate emissions (both PM₁₀ & PM_{2.5}), SO₂ & NO_x. The monitoring results for the period during summer season (April - June, 2018) shall be submitted to the SPCB and the Regional Office of the Ministry.

(ii) The EAC shall review the compliance of the action taken on the observations of the Regional Office, before December, 2018 and make its recommendations for continuance of the project thereafter. Also, based on the monitoring results, the Committee shall examine efficacy and adequacy of the proposed control measures and its impact on the ambient air quality.

(iii) To control the of dust generation at source, the crusher and in-pit belt conveyors shall be provided with mist type sprinklers.

(iv) Mitigative measures shall be undertaken to control dust and other fugitive emissions all along the roads by providing sufficient numbers of water sprinklers. Adequate corrective measures shall be undertaken to control dust emissions as presented before the Committee, which would include mechanized sweeping, water sprinkling/mist spraying on haul roads and loading sites, long range misting/fogging arrangement, wind barrier wall and vertical greenery system, green belt, dust suppression arrangement at railway siding, etc.

(v) Thick green belt of 50 m width at the final boundary in the down wind direction of the project site shall be developed to mitigate/check the dust pollution.

(vi) Persons of nearby villages shall be given training for their livelihood and skill development.

(vii) To ensure health and welfare of nearby villages, regular medical camps shall be organized at least once in six months.

(viii) In view of the mining potential of the area and the prevailing environmental concerns, carrying capacity of the eco-system shall be studied through some expert agencies to assess

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optimal mining operations in the area with minimal impact on the environmental components.

(ix) The mine is surrounded by large opencast mines operated by M/s MCL and shall have a cascading impact on air pollution. Therefore, a stage wise response plan vis-a-vis varying level of air pollution level be prepared and implemented in the mine during its operation.

(x) A mechanism of inter- project environmental audit shall be devised and implemented with reporting to this ministry along-with half yearly reports.

4.1 The grant of EC is further subject to compliance of the generic conditions as under:

(a) Mining

(i) No change in mining technology and scope of work shall be made without prior approval of the Ministry of Environment, Forest and Climate Change. No change in the calendar plan including excavation, quantum of coal and waste should be made.

(ii) Mining shall be carried out as per the approved mining plan, and also abiding by the relevant laws related to coal mining and the circulars issued by Directorate General Mines Safety (DGMS). An approved progressive Mine Closure Plan shall strictly be complied with and submitted.

(b) Land reclamation

(i) Digital processing of the entire lease area using remote sensing technique shall be carried out regularly once in three years for monitoring land use pattern and report submitted to Ministry of Environment, Forest and Climate Change its Regional Office.

(ii) Final mine void depth should not be more than 40 m. The void area should be converted into water body. The remaining area should be back filled up to the ground level and covered with thick top soil. The land after mining should be restored for agriculture or forestry purpose.

(iii) The top soil, if any, shall temporarily be stored at earmarked site(s) only and it should not be kept unutilized for long. The topsoil shall be used for land reclamation and plantation. The overburden dumps should be vegetated with suitable native species to prevent erosion and surface run off. The entire excavated area shall be backfilled and afforested in line with the approved Mine Closure Plan. Monitoring and management of rehabilitated areas should continue until the vegetation becomes self-sustaining. Compliance status shall be submitted to the Ministry of Environment, Forest and Climate Change and its Regional Office on six monthly basis.

(iv) Greenbelt shall be developed all along the mine lease area in a phased manner. The width of the green belt along forest area should not be less than 7.5 m, and the total area covered by 3 tier green belt shall not be less than 100 ha. A 3-tier green belt comprising of a mix of native species shall be developed all along the major approach roads.

(c) Emissions, Effluents, and Waste Disposal

(i) Transportation of coal by road should be carried out by covered trucks only. Effective measures such as regular water sprinkling shall be carried out in critical areas prone to air pollution and having high levels of PM₁₀ and PM_{2.5} such as haul road, loading and unloading point and transfer points. Fugitive dust emissions from all the 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 in this regard.

(ii) Vehicular emissions shall be kept under control and regularly monitored. Project should obtain 'PUC' certificate for all the vehicles from authorized pollution testing centres.

(iii) Adequate ambient air quality monitoring stations shall be established in the core zone as well as in the buffer zone for monitoring of pollutants, namely PM₁₀, PM_{2.5}, SO₂ and NO_x. 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. Monitoring of heavy metals such as Hg, As, Ni, Cd, Cr, etc carried out at least once in six months.

(iv) Crusher/feeder and breaker material transfer points should invariably be provided with dust suppression system. Belt-conveyors should be fully covered to avoid air borne dust. Drills shall be wet operated or fitted with dust extractors.

(v) The project proponent shall not alter the major channels around the site. Appropriate embankment should be provided along the side of the river/nallah flowing near or adjacent to the mine. The embankment constructed along the river/nallah boundary should be of suitable dimensions and critical patches should be strengthened by stone pitching on the river front side and stabilised with plantation so as to withstand the peak water flow and prevent mine inundation.

(vi) Rainwater harvesting shall be implemented for conservation and augmentation of ground water resources in the area in consultation with Central Ground Water Board.

(vii) Catch drains and siltation ponds of appropriate size shall be constructed around the mine working, coal heaps and OB dumps to prevent run off of water and flow of sediments directly into the river and other water bodies. The water so collected should be utilized for watering the mine area, roads, green belt development etc. The drains shall be regularly desilted particularly after monsoon and maintained properly. Sump capacity should provide adequate retention period to allow proper settling of silt material. Dimension of the retaining wall to be constructed at the toe of the dumps and OB benches within the mine to check run-off and siltation should be based on the rainfall data.

(viii) Industrial waste water (CHP, workshop and waste water from the mine) should be properly collected and treated so as to conform to the standards prescribed under the Environment (Protection) Act, 1986 and the Rules made there under, and as amended from time to time. Oil and grease trap should be installed before discharge of workshop effluents.

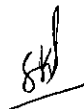
(d) Noise & Vibration Control

(i) Adequate measures shall be taken for control of noise levels below 85 dBA in the work environment. Workers engaged in blasting and drilling operations, operation of HEMM, etc shall be provided with ear plugs/muffs.

(ii) Controlled blasting techniques should be practiced with use of delay detonators to mitigate ground vibrations and fly rocks.

(e) Occupational Health & Safety

(i) Besides carrying out regular periodic health check-up of their workers, 20% of the workers identified from workforce engaged in active mining operations shall be subjected to health check-up for occupational diseases and hearing impairment, if any, through an specialised agency /institution within the District/State and the results reported to this Ministry and to DGMS.



(ii) Personnel working in dusty areas should wear protective respiratory devices and they should also be provided with adequate training and information on safety and health aspects. Supervisory staff shall be held responsible for ensuring compulsory wearing of dust mask.

(iii) In case of outsourcing of work through MDO, the project proponent shall ensure the strict enforcement of the above conditions.

(f) Biodiversity

(i) The project proponent shall take all precautionary measures during mining operation for conservation and protection of endangered fauna, if any, spotted in the study area. Action plan for conservation of flora and fauna shall be prepared and implemented in consultation with the State Forest and Wildlife Department. A copy of action plan shall be submitted to the Ministry of Environment, Forest and Climate Change and its Regional Office.

(g) Implementation of Action Plan as per Public Hearing and CSR Activities

(i) Implementation of Action Plan on the issues raised during the Public Hearing shall be ensured. The Project Proponent shall complete all the tasks as per the Action Plan submitted with budgetary provisions during the Public Hearing. Land oustees should be compensated as per the norms laid out R&R Policy of the Company or the National R&R Policy or R&R Policy of the State Government, whichever is higher.

(ii) The Board of every company, shall ensure that the company spends, in every financial year, at least two per cent. of the average net profits of the company made during the three immediately preceding financial years, in pursuance of its Corporate Social Responsibility Policy under Section 135 of the Companies Act, 2013, for the socio economic development of the neighbourhood.

(h) Corporate Environment Responsibility

(i) The Company should have a well laid down Environment Policy approved by the Board of Directors.

(ii) To have proper checks and balances, the Company should have a well laid down system of reporting of non-compliances/violations of environmental norms to the Board of Directors of the Company and/or shareholders or stakeholders at large.

(iii) A separate environmental management cell with suitable qualified personnel should be set-up under the control of a Senior Executive, who will report directly to the Head of the Organization.

(iv) The funds earmarked for environmental protection measures should not be diverted for other purpose. Year wise expenditure should be reported to the Ministry and its Regional Office.

(i) Statutory Obligations

(i) Environmental clearance is granted subject to final outcome of Hon'ble Supreme Court of India, Hon'ble High Court, NGT and any other Court of Law, if any, as applicable to the project.

(ii) This Environmental Clearance is subject to obtaining requisite NBWL Clearance from the Standing Committee of National Board for Wildlife, if any, as applicable to the project.

(iii) The project proponent shall obtain Consent to Establish and Consent to Operate from the concerned State Pollution Control Board prior to increase in capacity of washery and effectively implement all the conditions stipulated therein.



(iv) Project Proponent shall obtain the necessary prior permission from the Central Ground Water Authority (CGWA) for drawl of water (surface and ground water).

(j) **Monitoring of Project**

(i) Regular monitoring of ground water level and quality shall be carried out in and around the mine lease by establishing a network of existing wells and constructing new piezometers during the mining operation. The monitoring shall be carried out four times in a year pre-monsoon (April-May), monsoon (August), post-monsoon (November) and winter (January) and the data thus collected may be sent regularly to Ministry of Environment, Forest and Climate Change and its Regional Office, Central Ground Water Authority and Regional Director, Central Ground Water Board.

(ii) The project proponent shall submit six monthly reports on the status of the implementation of the stipulated environmental safeguards to the Ministry of Environment, Forest and Climate Change, its Regional Office, Central Pollution Control Board and State Pollution Control Board.

(iii) 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.

(iv) The activities pertaining to development of green belt/horticulture shall be reported to concerned Regional Office of MoEF&CC on six monthly basis from the date of commencement of mining operations.

(v) For half yearly monitoring reports, the data should be monitored for the period of April to September and October to March of the financial years and submitted to the concerned authorities within 2 months of the completion of periodicity of monitoring.

(k) **Miscellaneous**

(i) A copy of clearance letter will be marked to concerned Panchayat/local NGO, if any, from whom suggestion / representation has been received while processing the proposal.

(ii) An electronic copy of the EC letter shall be marked to the concerned State Pollution Control Board, Regional Office, District Industry Sector and Collector's Office/Tehsildar Office for information in public domain within 30 days.

(iii) The EC letter shall be uploaded on the company's website. The compliance status of the stipulated EC conditions shall also be uploaded by the project authorities on their website and updated at least once every six months so as to bring the same in public domain. The monitoring data of environmental quality parameter (air, water, noise and soil) and critical pollutant such as PM₁₀, PM_{2.5}, SO₂ and NO_x (ambient) and critical sectoral parameters shall also be displayed at the entrance of the project premises and mine office and in corporate office and on company's website.

(iv) The project authorities should advertise at least in two local newspapers widely circulated, one of which shall be in the vernacular language of the locality concerned, within 7 days of the issue of the clearance letter informing that the project has been accorded environmental clearance and a copy of the clearance letter is available with the State Pollution Control Board and also at web site of the Ministry of Environment, Forest and Climate Change at www.environmentclearance.nic.in and a copy of the same should be forwarded to the Regional Office.

(v) The Environmental Statement for each financial year ending 31 March in Form-V is mandated to be submitted by the PP for the concerned State Pollution Control Board as

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prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be uploaded on the Company's website along with the status of compliance of EC conditions and shall be sent to the respective Regional Offices of the MoEF&CC by e-mail.

5. 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.

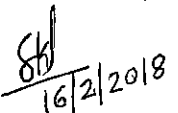
6. The proponent shall obtain all necessary clearances/approvals that may be required before the start of the project. The Ministry or any other competent authority may stipulate any further condition for environmental protection. The Ministry or any other competent authority may stipulate any further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

7. Concealing factual data or submission of false/fabricated data and failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract action under the provisions of Environment (Protection) Act, 1986.

8. The above conditions will 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 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.

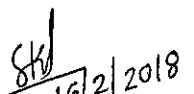
9. Any appeal against this environmental clearance shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.

10. This EC supersedes the earlier EC granted vide letter No. J-11015/280/2013-IA.II (M) dated 19.02.2014 with a capacity 25 MTPA.


(S. K. Srivastava)
Scientist E

Copy to:

1. The Secretary, Ministry of Coal, Shastri Bhawan, New Delhi
2. The APPCF, Regional office (EZ), MoEF&CC, A-31, Chandrashekarapur, Bhubaneswar. 751023 (Odisha)
3. The Secretary, Department of Environment & Forest, Government of Odisha, Secretariat, Bhubaneswar (Odisha)
4. The Member Secretary, Central Ground Water Authority, Ministry of Water Resources, Curzon Road Barracks, A-2, W-3 Kasturba Gandhi Marg, New Delhi
5. The Member Secretary, CPCB, CBD-cum-Office Complex, East Arjun Nagar, Delhi - 32
6. The Member Secretary, Odisha SPCB, Neelakanth Nagar, Unit-VIII, Bhubaneswar
7. The District Collector, **Angul**, Government of Odisha
8. Monitoring File 9. Guard File 10. Record File 11. Notice Board


(S. K. Srivastava)
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