

No. J-11015/240/2008-IA.II (M)
Government of India
Ministry of Environment, Forest & Climate Change
IA-II (Coal Mining) Division

Indira Paryavaran Bhawan,
Jorbagh Road,
New Delhi-110 003

Dated: 28th October, 2015

To,
The General Manager,
M/s Mahanadi Coalfields Ltd.,
Hingula-II OCP Expn.,
Hingula Area,
P.O. Gopalrasada,
District Angul – 759103 (Odisha)

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Sub. : Hingula-II OC Expn. Project (Phase-III) from 12 MTPA to 15 MTPA and expansion of ML area from 544.40 ha to 1870 Ha (1741.95 Ha of ML area + 128.05 ha ancillary activates) of M/s Mahanadi Coalfields Limited in Tehsil Jharsuguda District Jharsuguda (Odisha) – Environmental Clearance - reg.

Sir,
This is with reference to letter no. 43011/11/2008-CPAM dated 29.05.2008 with the application for Terms of Reference (TOR) and this Ministry's letter dated 11.07.2008 granting TOR. Reference is also invited to the letter no CIL/DLI/EMP-TOR/2011/11 dated 11.01.2012 and subsequent letter nos. dated 22.02.2012; 25.10.2012; 17.01.2014; 23.04.2014; 15.05.2014; 26.06.2014; 30.06.2014; 24.07.2014; 07.08.2014; 23.12.2014; 10.01.2015; 09.01.2015 and 16.02.2015 for environmental clearance on the above-mentioned subject.

2. The Ministry of Environment, Forest & Climate Change has considered the application. It is noted that the proposal is for grant of Environmental Clearance for **Hingula-II OC Expn. Project (Phase-III) (from 12 MTPA to 15 MTPA and expansion of ML area from 544.40 ha to 1870 ha (1741.95 ha of ML area + 128.05 ha ancillary activates; Latitude 20° 56' 00" to 20° 58' 22" N and Longitude 85° 00' 58" to 85° 02' 49" E) of M/s Mahanadi Coalfields Limited, in Tehsil Jharsuguda, District Jharsuguda (Odisha)**. The proposal was considered in the 43rd EAC meeting held on 21st- 22nd Feb 2012; 63rd EAC held on 17th -18th December, 2012; 15th EAC meeting held on 27th -28th June, 2014; 17th meeting held on 23rd - 24th & 25th July, 2014 and 31st EAC meeting held on 16th -17th February, 2015. The proponent has informed that:

- i. It was noted that EC was granted for Hingula-II Opencast vide letter dated No. J-11015/39/96-IA.II(M) dated 06.01.1997 for 4 MTPA. and the proposal was again granted expansion EC vide letter no. J-11015/136/2007-IA.II (M) dated 31.10.2007 for 12 MTPA. The application is as per EIA Notification, 2006 for expansion.
- ii. The project was accorded TOR vide letter no. J-11015/240/2008-IA.II (M) dated 11.07.2008.
- iii. The latitude and longitude of the project are 20° 56' 00" to 20° 58' 22" North and 85° 00' 58" to 85° 02' 49" East respectively.

iv. The land usage of the project will be as follows:

Pre-Mining:

Sl. No	Item	For existing 12.0 Mty	Addl. land for incremental production	Total for 15.0 MTPA
1.	Quarry excavation	268.78	1140.76*	1409.54
2.	Safety zone for 12.0 Mty	173.75	--	Merged with excavation area of incremental production.
3.	Dump area (external)	17.34	--	Merged with excavation area of incremental production.
4.	Safety zone for expansion	--	184.25	184.25
5.	Infrastructure including CHP, magazing, etc.	77.10	47.29	124.39
6.	Rationalization of project boundary	7.43	12.34	19.77
7.	Diversion of the road	--	4.00	4.00
	Mining lease area	544.40	1197.55	1741.95
8.	Residential colony	22.00	28.00	50.00
9.	Rehabilitation site	43.60	34.45	78.05
	Total :	610.00	1260.00	1870.00

Post-mining:

S. N.	Category	Land use (in ha)					Total
		Plantation	Water body	Dip side slope & haul road	Undisturbed	Built-up area	
1	Quarry excavation	1217.74	64.16	127.64	0.00	0.00	1409.54
2	Safety zone for expansion	34.40	0.00	0.00	149.85	0.00	184.25
3	Infrastructure including CHP, magazing, etc.	24.98	0.00	0.00	0.00	99.41	124.39
4	Rationalisation of project boundary	19.77	0.00	0.00	0.00	0.00	19.77

5	Diversion of Road	0.80	0.00	0.00	0.00	3.20	4.00
	Mining Lease Area	1297.69	64.16	127.64	149.85	102.61	1741.95
6	Residential colony	10.00	0.00	0.00	0.00	40.00	50.00
7	Resettlement site	15.60	0.00	0.00	0.00	62.45	78.05
	Total	1323.29	64.16	127.64	149.85	205.06	1870.00

Core area :

Sl. No.	Type of Land	Existing (Area in Ha)	Addl. land for incremental production (Area in Ha)	Total for 15.0 Mty (Area in Ha)
1.	Agricultural	138.98	194.64	333.62
2.	Forest	--	435.15	435.15
3.	Waste land	391.48	548.25	939.73
4.	Grazing	0.00	0.00	0.00
5.	Surface water bodies	5.99	8.38	14.37
6.	Others	7.95	11.13	19.08
Total for mining lease area :		544.40	1197.55	1741.95

Land Showing Forest & Non-Forest Area:

Sl. No.	Item	For existing 12.0 Mty (Area in Ha)	Addl. land for incremental production (Area in Ha)	Total for 15.0 Mty (Area in Ha)
1.	Forest	--	435.15	435.15*
2.	Non-forest	544.40	762.40	1306.80
	Within mining lease area	544.40	1197.55	1741.95
3.	Forest	--	--	--
4.	Non-forest	65.60	62.45	128.05
	Total :	610.00	1260.00	1870.00

The total mining lease area is 1741.95 ha out of which 1409.54 ha is excavation or quarry area.

* Stage-I Forest Clearance granted for 440.53 ha (including safety zone)

- iv. The total mining lease area is 1741.95 ha out of which 1409.54 ha is excavation or quarry area.
- v. The total geological reserve is 777.93 MT. The mineable reserve 553.98 MT, extractable reserve is 572.01 MT (493.90 Mt as on 01.04.2014) MT. The per cent of extraction would be 74%.
- vi. The coal grade is D to G. The stripping ratio is 1.95. The average Gradient is 20- 40. There will be 11 seams (Seam-IID to Seam-IX) with thickness ranging upto 31.55 m.
- vii. The total estimated water requirement is 4.03 MLD. (Potable: 1.51 MLD, Industrial: 2.52 MLD) m³/day. The level of ground water ranges from 2.56 m to 10.2 m.
- viii. The Method of mining would be by Shovel –Dumper in OB surface miner, pay loader & tipper in coal.

- ix. There are two external OB dumps with Quantity of 65.66 Mbcm in an area of 163.00 ha with height of 65 to 80 meter above the surface level and 1 internal dump with Quantity of 1024.42 Mbcm in an area of 1217.74 Ha.
- x. The final mine void would be in 539.54 Ha with depth of 40 m below ground level and the Total quarry area is 1409.54 Ha. Backfilled quarry area of 870.00 Ha shall be reclaimed with plantation. A void of 539.54 Ha up-to depth of 40m proposed to be converted into a water body.
- xi. The seasonal data for ambient air quality has been documented and all results at all stations are within prescribed limits.
- xii. The **life of mine** is 35 years as on 31.03.2014.
- xiii. **Transportation:** Coal transportation in pit by Tippers, Surface to Siding by Pit head to washery (7.0 Km), Washery to SILO (900 m) - By conveyor and loading to siding by rail wagon.
- xiv. There is **R & R** involved. There are 1317 PAFs.
- xv. **Cost:** Total capital cost of the project is Rs. 653.55 Crores. Capital CSR Cost Rs. 264 Lacs and Rs.5/M.T. as annual CSR during operation stage. R&R Cost Rs. 25.93 Crore. Environmental Management Cost Rs 58.53 crores.
- xvi. **Water body:** Singada Jhor (Nala) is the water body near the project site.
- xvii. **Approvals:** Ground water clearance: NA, as the area is not falling under critical area as per CGWA. Board's approval obtained on 08.11.2008 by MCL. Mining plan has been approved by MoC vide Letter no. 43012/(1)/2008-CPAM Dt. 13.04.2009. Mine Closure Plan approval by MCL Board on 22.06.2011.
- xviii. **Wildlife issues:** There are no national Parks, wildlife sanctuary, biosphere reserves found in the 10 km buffer zone.
- xix. **Forestry issues:** Total forest area involved 435.15 ha for mining. Forest Clearance has been obtained vide letter no. 8-69/2014 –FC dated 06.01.2015 for 440.53 Ha including safety zone area.
- xx. Total **afforestation** plan shall be implemented covering an area of 1049.36 ha at the end of mining. Green Belt over an area of 79.87 ha. Density of tree plantation 2500 trees/ ha of plants.
- xxi. There are no court cases.
- xxii. **Violation** due to excess production during 2003-2007. Boards Resolution for not reaping the violation has been submitted vide letter no. MCL/SBP/CS/BD-157/Exct/2014/7591 dated 15.05.2014.
- xxiii. **Public Hearing** was held on 10/09/2009 at Gopal Prasad. The issues raised in the PH includes infrastructure activities; Pollution; Social activities etc.
- xxiv. Calendar Plan and post mining details have been submitted.
- xxv. A list of fauna under different schedules of The Wildlife (Protection) Act 1972, found in the core and buffer zone of the project authenticated by the recognized Department of Environmental Sciences and the School of Life Sciences, Sambalpur University, Orissa has been submitted.
- xxvi. High Wall Mining has been done at the high wall side of an opencast mine when it has reached its economic limits. In opencast mine, the stripping ratio increases with increase in depth i.e. more overburden has to be removed for extracting one tonne of coal. When the cost of OB removal crosses the price of coal, the mine becomes uneconomic. From this final high wall position where coal has become sterilized, this method of mining can be adopted. In this, in seam tunnels are driven from surface by remote control continuous miner. However, this method is not replaceable with opencast as lot of reserve is lost in pillars and can mine only upto 250 to 400 mts from coal face. Open coal face, crushed pillars, etc. may also invite danger of fire and subsidence. This method is not very suitable for multi seam operations with varying band thickness.
- xxvii. The production exceeded EC capacity during the years 2003-04 to 2006-07, which is very old case and process of obtaining EC for 12 MTPA capacity was going on including holding of PH etc. As the

production exceeded for uninterrupted supply of coal to the power plants, in the interest of the Nation and not intentional and being a very old case much prior to OMs for the dealing of violation of exceeding the production beyond EC capacity. Boards Resolution submitted vide letter no. MCL/SBP/CS/BD-157/Exct/2014/7591 dated 15.05.2014 for not repeating violation.

- xxviii. This project involves forest land of 440.53 ha for which Wild Life Conservation Plan has been prepared and submitted to DFO, Angul for approved by Chief Wild Life Warden/PCCF (Wild Life) Odisha. Stage-I FC proposal has been recommended by State Govt. as well as MoEF, Regional Office and send to MoEF, New Delhi on 24.07.2014. Prior to Stage-II FC, Wild Life Conservation Plan shall be approved and will be sent as compliance of Stage-I FC.
- xxix. Internal OB, dumped earlier in the backfilled area is to be re-handled because there are coal seams below the internal dumps, which are to be taken during the course of the expansion project. However as advised by RO, MoEF, Bhubaneswar we have properly reclaimed the area and grass plantation has been done. This year plantation of the short life species is being taken up over 4 ha area with 10,000 nos of plants. Total plantation in the mine has been done to the tune of 70,392 nos
- xxx. Properly reclaimed/terraced the internal OB dump area and grass plantation has been done. This year plantation of the short life species is being taken up over 4 ha area with 10,000 nos of plants.
- xxxi. There are three nos. of Mechanical Road Sweepers at Talcher Coalfield for which MCL has incurred approximately 1.5 Crores. Regular clearing the dust on the pucca coal transportation roads are being done through these Mechanical Road Sweepers.
- xxxii. For ground water monitoring designated well network are being used presently and for adding new Peizometers to this Network, Work has already been awarded to CMPDI. Location for construction of Peizometers have been finalized. Open tender invited for outsourcing the construction activity of 23 Nos of piezometers covering all the projects of MCL in Talcher Coalfield area at an estimated cost of 1.13 Crores on 29/12/2014 and Financial Bid has been opened on 15/01/2015 and the tender is under finalization for award of work
- xxxiii. The Project is having on ETP as per the requirement for 12 MTPA capacity. After getting EC for the expansion area, new Workshop along with ETP commensurate with the requirement of 15 MTPA project has been envisaged in the expansion area for a capacity of 300 KLD.
- xxxiv. The Final Mine Closure Plan has been approved by MCL Board. This has been submitted to MoC and after its approval the same shall be submitted to MoEF, RO, Bhubaneswar.
- xxxv. Action Plan for Capital CSR/ t as per the new CSR policy of Coal India Limited is submitted. As per the revised Policy the fund to be allocated should be 2% of the av. Net profit of the company for the three immediate preceding year of Rs.2.0 per ton of coal whichever is higher.
- xxxvi. EC for 12 MTPA was obtained on 31/10/2007 for operating within the same ML area of 544.40 ha. Application is for expansion in ML area from 544.40 ha to 1741.95 ha and expansion in coal production from 12 MTPA to 15 MTPA and envisaging extraction of all seams vertically downwards was submitted on 29/05/2008. TOR was granted on 11/07/2008 and PH was held on 10/9/2009.
- xxxvii. The Expansion Proposal [Expansion from 12 MTPA(544.40 ha) to 15 MTPA (1741.95 ha)] was considered in EAC(T&C) meeting held on 22/2/2012 ,17/12/2012, 28/06/2014 & 25/7/2014 and further to be considered on 16/02/2015 in view of grant of Stage-I FC for the entire forest land involved in the project to the tune of 440.53 ha and compliance of observations of EAC in its meeting held on 28/6/2014.
- xxxviii. As the ML area of 1741.95 ha involved forest land of 440.53 ha and Stage-I FC was under consideration, EAC recommended the expansion proposal and asked to come back with proposal for mining in west quarry without involving forest land and also sought some additional clarification.

- xxxix. Accordingly, the proposal was considered in the EAC Meeting held on 28/06/2014 to work in 61 ha patch in the West Quarry containing 23.03 Mte of coal and having no forest land, till stage-I forest clearance for 440.53 ha forest land involved in the entire lease area of the project is obtained. EAC recommended the proposal, which was reflected in the MoM of the EAC Meeting held on 23, 24 & 25 July 2014, and also asked for submission of some additional information.
- xl. MCL vide letter no. 4912 Dtd. 09/01/2015, submitted the desired Board Resolution and confirmed that after 2006-07, MCL has never exceeded the EC Production Capacity. It was also represented to MoEF that as the coal production had exceeded to ensure un-interrupted supply of coal to the Power Plants in the interest of the nation and was not intentional and as the application for expansion up to 12 MTPA from 4 MTPA was made quite earlier and because the appraisal was delayed due to changeover from EIA Notification 1994 to EIA Notification 2006 and EC was finally granted in the year, 2007 and as the violation of exceeding coal production beyond EC capacity took place during the period 2003-04 to 2006-07, which was prior to the issuance of the EC letter in 2007, and much prior to the issuance of the OMs for dealing such violations (2010 & 2012), it was kindly requested to exempt this Project from the provision of submitting the evidence of legal credible action.
- xli. Mean time Stage-I FC was obtained vide letter no. 8-69/2014-FC on 6/01/2015 for diversion of 440.53 Ha of forest land including 3.80 Ha safety zone. Therefore the proponent has requested for the EC for the forest patch.
- xlii. Land for coal mining in the existing ML area of 544.40 ha has almost exhausted and rate of production has been decelerated and machineries and human resources are facing idleness.
- xliii. All other required clearances like Mining Plan Approval, PR Approval, Public Consultation, Permission of Sinia Nala Diversion etc have been obtained for continuing mining in the expansion area. Certified Monitoring Report of RO, MoEF, Bhubaneswar obtained.
- xliv. Extraction of coal is by blast- less method Surface Miner. Transportation of coal from mine pit head to washery (approx 4 km) is proposed by tube conveyor and from Washery to Silo (approx 500 m) by conveyor. Silo to load coal in the rail wagons.
- xl. The approved working mine was planned in the northern portion of the geological block to extract only thick upper seam-VIII & seam-IX at a very low stripping ratio, this in crop area will be exhausted very soon and mine will be liable to closure unless remaining portion of block area is not made available for mining.
3. The EAC received a representation from one of the NGOs requesting Ministry to address issues with regards to seven years old ToR and six years old Public Hearing; Supplementary EIA; Compliance report; present capacity of the project etc. The proponent responded to the issues and submitted the following:
- i. TOR was granted to the project on 11/07/2008 and PH was held on 10/9/2009. The Proposal for Expansion from 12 MTPA (544.40 ha) to 15 MTPA (1741.95 ha)] was considered in EAC (T&C) meeting held on 22/2/2012, 17/12/2012, 28/06/2014 & 25/7/2014. As the ML area of 1741.95 Ha involved forest land of 440.53 ha and Stage-I FC was under consideration, EAC recommended for the expansion proposal and asked to come back with proposal for mining in West Quarry without involving forest land and also sought some additional clarification. Accordingly, the proposal was considered in the EAC Meeting held on 28/06/2014 to work in 61 Ha patch in the West Quarry containing 23.03 Mte of coal and having no forest land, till stage-I forest clearance for 440.53 Ha forest land involved in the entire lease area of the project, is obtained. EAC recommended the proposal in its Meeting held on 23 - 25 July 2014, and also asked for submission of some additional information.

- ii. MCL vide letter no. 4912 Dtd. 09/01/2015, submitted the desired Board Resolution and confirmed that after 2006-07, MCL has never exceeded the EC Production Capacity. It was also represented to MoEF that as the coal production had exceeded to ensure un-interrupted supply of coal to the Power Plants in the interest of the Nation and was not intentional and as the application for expansion up to 12 MTPA from 4 MTPA was made earlier and because the appraisal was delayed due to change over from EIA Notification 1994 to EIA Notification 2006 and EC was granted in the year, 2007 and as the violation of exceeding coal production beyond EC capacity took place during the period 2003-04 to 2006-07, which was prior to the issuance of the EC letter in 2007, and much prior to the issuance of the OMs for dealing such violations (2010 & 2012), it was kindly requested to exempt this Project from the provision of submitting the evidence of legal credible action. Mean time Stage-I FC was obtained vide letter no. 8-69/2014-FC on 6/01/2015 for diversion of 440.53 Ha of forest land including 3.80 Ha safety zone.
- iii. The proponent has requested for EC for the forest land within the ML area for which they have received the forest clearance vide letter no. 8-69/2014-FC on 6/01/2015 for diversion of 440.53 Ha of forest land including 3.80 Ha safety zone. Since, EIA has been done for the entire Mine Lease area, no additional EIA is required.
4. The proponent presented the **compliance report from the RO, MoEF** which was deliberated by the EAC which includes the following:
- i. The internal OB, which was dumped earlier in certain portions, has not been properly reclaimed and planted. Some portions of slopes –in about 1.33 ha of OB dumps however, have not been planted. Project should also take up plantation on the inactive internal OB dumps which require to be reclaimed in the de-coaled area of the mine and should be properly terraced and planted.
- ii. Mechanical sweepers have not been deployed for clearing dust.
- iii. New Piezometers should be installed for monitoring of ground water. It has been stated that Ground water level as well as quality are regularly monitored. No data has been provided.
- iv. No colony is set up in the project. An ETP of 270 m³ per day capacity is functioning. Project should increase the capacity of the ETP to cater to the requirement of the increased capacity of production of the mine for the expansion project.
- v. It was stated that at present about 7 million tons of coal reserve is existing in the mine which will be excavated by 2014-15. The final mine closure plan has not been submitted to the ministry for approval and the condition is not complied.
5. **This is a violation case.** The proponent has exceeded the production limit. As per the Office Memorandum dated 12.12.2012 and 27th June, 2013 issued by the Ministry of Environment, Forests & Climate Change with regard to the consideration of proposals for ToR/Environment Clearance/CRZ clearance involving violation of the Environment (Protection) Act, 1986/EIA notification, 2006/CRZ notification, 2011, the Environmental Clearance will be granted after the written commitment in the form of a formal resolution by the Board of Directors submitted to the MoEF to ensure that violations will not be repeated and the State Government concerned initiates credible action on the violation by invoking powers under Section 19 of the Environment (Protection) Act, 1986 for taking legal action under section 15 of the Act for the period for which the violation has taken place and evidence provided to the MoEF of the action taken. Project proponent has submitted Boards Resolution vide letter no. MCL/SBP/CS/BD-157/Exct/2014/7591 dated 15.05.2014 for not repeating violation.

6. The matter was examined in the Ministry again. The Status of violation is on account of production beyond the limit of sanctioned environmental clearance capacity in the year 2003-04, 2004-05, 2005-06 & 2006-07. The last EC granted to the project in which EC capacity was raised to 12 MTPA was approved on 31.10.2007. This expansion was from 4 MTPA to 12 MTPA. After issuance of that EC there is no excess production beyond the EC capacity.

7. The Ministry's OMs on violations (to deal with violation cases) came in year 2010, 2012 & 2013 it was not there when last EC for 12 MTPA was being appraised. But, as this excess production has been there against EC of 4 MTPA which was expanded to 12 MTPA in 2007 after which there is no excess production beyond the sanctioned EC limit, now, the present case of the project proponent which is under consideration for expansion from 12 MTPA to 15 MTPA, the excess production which took place before the issuance of the EC for 12 MTPA cannot be held against the PP as a violation for the present proposal.

8. The proposal was reconsidered in the Expert Appraisal Committee (EAC) (Thermal & Coal Mining) and recommended in its 31st EAC meeting held on 16th -17th February, 2015 for granting Environmental Clearance. The Ministry of Environment, Forest & Climate Change hereby accords environmental clearance for the above-mentioned **Hingula-II OC Expn. Project (Phase-III) (from 12 MTPA to 15 MTPA and expansion of ML area from 544.40 ha to 1870 ha (1741.95 ha of ML area + 128.05 ha ancillary activates; Latitude 20° 56' 00" to 20° 58' 22" N and Longitude 85° 00' 58" to 85° 02' 49" E) of M/s Mahanadi Coalfields Limited, in Tehsil Jharsuguda District Jharsuguda (Odisha)** under the provisions of the Environment Impact Assessment Notification, 2006 and subsequent amendments/circulars thereto subject to the compliance of the terms and conditions mentioned below:

A. Specific Conditions:

- i. The maximum production from the mine at any given time shall not exceed the limit as prescribed in the EC.
- ii. The validity of the EC is for the life of the Mine or as specified in the EIA Notification, 2006, whichever is earlier.
- iii. All safety measures shall be taken as per Coal Mining Regulation Act, 1957 & related Circulars.
- iv. The environmental clearance is subject to obtaining prior clearance from wildlife angle including clearance from the Standing Committee of the National Board for Wildlife as applicable.
- v. Grant of environmental clearance does not necessarily implies that the wildlife clearance shall be granted to the project and that their proposals for wildlife clearance shall be considered by the respective authorities on their merits and decision taken.
- vi. The investment made in the project, if any, based on environmental clearance so granted, in anticipation of the clearance from wildlife angel shall be entirely at the cost and risk of the project proponent and Ministry of Environment, Forest & Climate Change shall not be responsible in this regard in any manner.
- vii. Coal transportation to consumers be made by rail mode so as to reduce the dust pollution. Coal transport from mine to washery and siding will be by pipe conveyor and conveyor and wagon loading through silo, as proposed by the PP. This arrangement will be ready within 3 (three) yrs and no road transport of coal after this period.
- viii. Fog Cannons/Atomizers be adopted to minimise dust pollution.
- ix. Use of dust extractor in drill machines/Wet Drilling be resorted to.
- x. Sufficient Green Belt be provided.
- xi. Exclusive Road Corridor for coal transportation from Hingula to NH23 be provided.
- xii. All internal CT road be constructed.
- xiii. There shall be no external OBD internal dump will be brought to ground level and final mine void will of be within 40 m depth.
- xiv. Coal transportation in pit by Tippers, Surface to Siding by Pit head to washery (7.0 Km), Washery to SILO (900 m) by conveyor and loading at siding by rail wagon.

- xv. The production shall be within the same Mining Lease area.
- xvi. The OB shall be completely re-handled at the end of the mining and will be back filled upto the ground level and covered with about a meter thick top soil and put to use. The land after mining shall be brought back for agriculture purpose.
- xvii. Garland drains be provided.
- xviii. Appropriate embankment shall be provided along the side of the river/nallah flowing near or adjacent to the mine.
- xix. The CSR cost should be Rs 5 per Tonnes of Coal produced which should be adjusted as per the annual inflation.
- xx. Everybody in the core area should be provided with mask for protection against fugitive dust emissions.
- xxi. The supervisory staff should be held personally responsible for ensuring compulsory regarding wearing of dust mask in the core area.
- xxii. People working in the core area should be periodically tested for the lung diseases and the burden of cost on account of working in the coal mine area.
- xxiii. The mining area should be surrounded by green belt having thick closed thick canopy of the tree cover.
- xxiv. The embankment constructed along the river boundary shall be of suitable dimensions and critical patches shall 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.
- xxv. There shall be no overflow of OB into the river and into the agricultural fields and massive plantation of native species shall be taken up in the area between the river and the project.
- xxvi. OB shall be stacked at two earmarked external OB dumpsite(s) only. The ultimate slope of the dump shall not exceed 28°. Monitoring and management of existing reclaimed dumpsites shall continue until the vegetation becomes self-sustaining. Compliance status shall be submitted to the Ministry of Environment, Forest & Climate Change and its concerned Regional office on yearly basis.
- xxvii. Catch drains and siltation ponds of appropriate size shall be constructed to arrest silt and sediment flows from soil, OB and mineral dumps. The water so collected shall be utilised for watering the mine area, roads, green belt development, etc. The drains shall be regularly desilted and maintained properly. Garland drains (size, gradient and length) and sump capacity shall be designed keeping 50% safety margin over and above the peak sudden rainfall and maximum discharge in the area adjoining the mine site. Sump capacity shall also provide adequate retention period to allow proper settling of silt material.
- xxviii. Dimension of the retaining wall at the toe of the dumps and OB benches within the mine to check run-off and siltation shall be based on the rainfall data.
- xxix. Crushers at the CHP of adequate capacity for the expansion project shall be operated with high efficiency bag filters, water sprinkling system shall be provided to check fugitive emissions from crushing operations, conveyor system, haulage roads, transfer points, etc.
- xxx. Drills shall be wet operated.
- xxxi. The project authorities shall undertake regular repairing and tarring of roads used for mineral transportation. A 3-tier green belt comprising of a mix of native species shall be developed all along the major approach roads,
- xxxii. Controlled blasting shall be practiced with use of delay detonators and only during daytime. The mitigative measures for control of ground vibrations and to arrest the fly rocks and boulders shall be implemented.
- xxxiii. A Progressive afforestation plan shall be implemented covering an area of **1049.36** Ha at the end of mining, which includes reclaimed external OB dump area (**17.34** ha) and internal OB dump area (**870** ha) and Green belt (**79.87** ha) by planting native species in consultation with the local DFO/Agriculture Department. The density of the trees shall be around **2500** plants per ha. Massive plantation shall be carried out in open spaces in and around the mine and a 3-tier avenue plantation along the main approach roads to the mine.
- xxxiv. An estimated total **1090.08** Mm³ of OB will be generated during the entire life of the mine. There will be two temporary external dump having **65.66** Mm³ OB in covering area of **163.00** ha on coal bearing area which will be re-handled back into internal dump during mine life only. Out of which **1024.42** Mm³ of OB will be dumped in one internal OB Dumps in covering area **1217.74** Ha of land. The OB dump height is upto ground level. The maximum slope of the dump shall not exceed 28 degrees. Monitoring and

management of reclaimed dump sites shall continue till the vegetation becomes self-sustaining and compliance status shall be submitted to MOEF&CC and its Regional Office on yearly basis.

- xxxv. The proponent should prepare restoration and reclamation plan for the degraded area. The land be used in a productive and sustainable manner.
- xxxvi. Compensatory Ecological & Restoration of waste land, other degraded land and OB dumps in lieu of breaking open the land be carried out.
- xxxvii. The mining should be phased out in sustainable manner. No extra over burden dumps are permitted.
- xxxviii. No groundwater shall be used for mining operations.
- xxxix. Of the total quarry area of **1409.54 Ha** the backfilled quarry area of **870 Ha** shall be reclaimed with plantation and a void of **539.54 Ha** at a depth upto **40 m** which is proposed to be converted into a water body shall be gently sloped and the upper benches shall be terraced and stabilised with plantation/afforestation by planting native plant species in consultation with the local DFO/Agriculture Department. The density of the trees shall be around **2500** plants per ha.
- xl. Regular monitoring of groundwater level and quality shall be carried out by establishing a network of existing wells and construction of new piezometers. The monitoring for quantity shall be done four times a year in pre-monsoon (May), monsoon (August), post-monsoon (November) and winter (January) seasons and for quality in May. Data thus collected shall be submitted to the Ministry of Environment, Forest & Climate Change and the Central Pollution Control Board quarterly within one month of monitoring.
- xli. The Company shall put up artificial groundwater recharge measures for augmentation of groundwater resource in case monitoring indicates a decline in water table. The project authorities shall meet water requirement of nearby village(s) in case the village wells go dry due to dewatering of mine.
- xl.ii. Sewage treatment plant shall be installed in the existing colony. ETP shall also be provided for workshop and CHP wastewater.
- xl.iii. Besides carrying out regular periodic health check-up of their workers, 10% 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.
- xl.ii. Land oustees shall be compensated as per the norms laid out R&R Policy of CIL or the National R&R Policy or R&R Policy of the State Government whichever is higher.
- xl.iii. For monitoring land use pattern and for post mining land use, a time series of land use maps, based on satellite imagery (on a scale of 1: 5000) of the core zone and buffer zone, from the start of the project until end of mine life shall be prepared once in 3 years (for any one particular season which is consistent in the time series), and the report submitted to MOEF&CC and its concerned Regional office
- xl.ii. A detailed Final Mine Closure Plan along with details of Corpus Fund shall be submitted to the Ministry of Environment, Forest & Climate Change within 6 months of grant of Environmental Clearance.
- xl.iii. The project authorities shall in consultation with the Panchayats of the local villages and administration identify socio-economic and welfare measures under CSR to be carried out over the balance life of the mine.
- xl.iii. Corporate Environment Responsibility:
- The Company shall have a well laid down Environment Policy approved by the Board of Directors.
 - The Environment Policy shall prescribe for standard operating process/procedures to bring into focus any infringements/deviation/violation of the environmental or forest norms/conditions.
 - The hierarchical system or Administrative Order of the company to deal with environmental issues and for ensuring compliance with the environmental clearance conditions shall be furnished.
 - To have proper checks and balances, the company shall 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.

B. General Conditions

- i. No change in mining technology and scope of working shall be made without prior approval of the Ministry of Environment, Forest & Climate Change.
- ii. No change in the calendar plan of production for quantum of mineral coal shall be made.
- iii. Four ambient air quality monitoring stations shall be established in the core zone as well as in the buffer zone for PM₁₀, PM_{2.5}, SO₂ and NO_x monitoring. 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. Data on ambient air quality (PM₁₀, PM_{2.5}, SO₂ and NO_x) and heavy metals such as Hg, As, Ni, Cd, Cr and other monitoring data shall be regularly submitted to the Ministry including its concerned Regional Office and to the State Pollution Control Board and the Central Pollution Control Board once in six months. Random verification of samples through analysis from independent laboratories recognised under the EPA rules, 1986 shall be furnished as part of compliance report.
- v. 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.
- vi. Industrial wastewater (workshop and wastewater from the mine) shall be properly collected, treated so as to conform to the standards prescribed under GSR 422 (E) dated 19th May 1993 and 31st December 1993 or as amended from time to time before discharge. Oil and grease trap shall be installed before discharge of workshop effluents.
- vii. Vehicular emissions shall be kept under control and regularly monitored. Vehicles used for transporting the mineral shall be covered with tarpaulins and optimally loaded.
- viii. Monitoring of environmental quality parameters shall be carried out through establishment of adequate number and type of pollution monitoring and analysis equipment in consultation with the State Pollution Control Board and data got analysed through a laboratory recognised under EPA Rules, 1986.
- ix. Personnel working in dusty areas shall wear protective respiratory devices and they shall also be provided with adequate training and information on safety and health aspects.
- x. Occupational health surveillance programme of the workers shall be undertaken periodically to observe any contractions due to exposure to dust and to take corrective measures, if needed and records maintained thereof. The quality of environment due to outsourcing and the health and safety issues of the outsourced manpower should be addressed by the company while outsourcing.
- xi. A separate environmental management cell with suitable qualified personnel shall be set up under the control of a Senior Executive, who will report directly to the Head of the company.
- xii. The funds earmarked for environmental protection measures shall be kept in separate account and shall not be diverted for other purpose. Year-wise expenditure shall be reported to this Ministry and its concerned Regional Office.
- xiii. The Project authorities shall advertise at least in two local newspapers widely circulated around the project, one of which shall be in the vernacular language of the locality concerned within seven days 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 may also be seen at the website of the Ministry of Environment, Forest & Climate Change at <http://envfor.nic.in>.
- xiv. A copy of the environmental clearance letter shall be marked to concern Panchayat/Zila Parishad, Municipal Corporation or Urban local body and local NGO, if any, from whom any suggestion/representation has been received while processing the proposal. A copy of the clearance letter shall also be displayed on company's website.
- xv. A copy of the environmental clearance letter shall be shall also be displayed on the website of the concerned State Pollution Control Board. The EC letter shall also be displayed at the Regional Office, District Industry Sector and Collector's Office/Tehsildar's Office for 30 days.

- xvi. The clearance letter shall be uploaded on the company's website. The compliance status of the stipulated environmental clearance 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.
- xvii. The project proponent shall submit six monthly compliance reports on status of compliance of the stipulated environmental clearance conditions (both in hard copy and in e-mail) to the respective Regional Office of the Ministry, respective Zonal Office s of CPCB and the SPCB.
- xviii. The Regional Office of this Ministry located in the Region shall monitor compliance of the stipulated conditions. The Project authorities shall extend full cooperation to the office(s) of the Regional Office by furnishing the requisite data/ information/monitoring reports.
- xix. The Environmental statement for each financial year ending 31 March in For –V is mandated to be submitted by the project proponent for the concerned State Pollution Control Board as 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 MoEFCC by e-mail.

9. The proponent shall abide by all the commitments and recommendations made in the EIA/EMP report so also during their presentation to the EAC.

10. The commitment made by the Proponent to the issue raised during Public Hearing shall be implemented by the Proponent.

11. The proponent is required to 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.

12. The Ministry or any other competent authority may stipulate any further condition for environmental protection.

13. The Proponent shall setup an Environment Audit cell with responsibility and accountability to ensure implementation of all the EC Conditions.

14. 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.

15. 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. The proponent shall ensure to undertake and provide for the costs incurred for taking up remedial measures in case of soil contamination, contamination of groundwater and surface water, and occupational and other diseases due to the mining operations.

16. 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.



17 This EC supersedes the earlier EC, vide letter no. J-11015/39/96-IA.II(M) dated 06.01.1997 and vide letter no J-11015/136/2007-IA.II (M) dated 31.10.2007 for an expansion in production from 4 MTPA to 12 MTPA.



(P. R. Sakhare)
Scientist C

Copy to:

1. The Secretary, Ministry of Coal, Shastri Bhawan, New Delhi.
2. The Secretary, Department of Environment & Forest, Government of Odisha, Secretariat, Bhubaneswar
3. The Chief Conservator of Forests, Regional office (EZ), Ministry of Environment & Forest, A-31, Chandrashekarpur, Bhubaneswar – 751023.
4. The Member Secretary, Odisha State Pollution Control Board, Neelakanth Nagar, Unit-VIII, Bhubaneswar.
5. The Member Secretary, Central Pollution Control Board, CBD-cum-Office Complex, East Arjun Nagar, Delhi -110032.
6. The Member-Secretary, Central Ground Water Authority, Ministry of Water Resources, Curzon Road Barracks, A-2, W-3 Kasturba Gandhi Marg, New Delhi.
7. The Advisor, Coal India Limited, SCOPE Minar, Core-I, 4t Floor, Vikas Marg, Laxmi nagar, New Delhi.
8. The IG (Wild life), Ministry of Environment and Forest, New Delhi
9. The District Collector, **Jharsuguda**, Government of Odisha.
10. Monitoring File 11. Guard File 12. Record File 13. Notice Board.



(P. R. Sakhare)
Scientist C