

F No. J- 11015/91/2017- IA.II (M)
Government of India
Ministry of Environment Forest and Climate Change
(Impact Assessment Division)

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Dated: 11th July, 2022

To,

Head (Environment & Forest)
Tata Steel West Bokaro Division
Tata steel limited West Bokaro mines,
Ghatotand, Mandu
District – Ramgarh (Jharkhand)
Email: mk.gupta@tatasteel.com

Sub: Jamadoba Underground Coal Mine of 0.34 MTPA in ML Area of 927.17 ha by M/s Tata Steel Limited at village Jorapokhar, Pattiya Dungri, Tehsil Jharia, District Dhanbad (Jharkhand) –For Environment Clearance- reg.

Sir,

This has reference to your online proposal No. IA/JH/CMIN/109757/2019 dated 31st January, 2021 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 Jamadoba Underground Coal Mine of 0.34 MTPA in ML Area of 927.17 ha by M/s Tata steel Limited at village Jorapokhar, Pattiya Dungri, Tehsil Jharia, District Dhanbad (Jharkhand).

The project/activity is covered under category 'A' of item 1(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 8th EAC meeting held on 11th February, 2021, 19th EAC meeting held on 23rd September, 2022, 25th EAC held on 18th -20th January, 2022 and on 30th meeting held on 20th May, 2022. 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:

(i) The project area is covered under Survey of India Topo Sheet Nos 73 I/5, I/6, I/9 & I/10 and is bounded by the geographical coordinates. The Latitude and Longitude of the project is as follows:

Points	Latitude	Longitude
1	23° 41' 53.3" N	86° 22' 09.5" E
12	23° 43' 17.0" N	86° 22' 08.9" E

15	23° 43' 35.9" N	86° 22' 16.5" E
55	23° 42' 43.1" N	86° 23' 58.8" E
63	23° 41' 04.6" N	86° 24' 46.4" E
66	23° 41' 06.6" N	86° 24' 30.4" E
89	23° 41' 22.0" N	86° 23' 08.8" E
90	23° 41' 21.4" N	86° 22' 58.1" E

- (ii) Coal linkage of the project is proposed for Captive mine use only.
- (iii) No Joint venture cartel has been formed for the project.
- (iv) Project does not fall in 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: Presently, 622 direct and 474 indirect employments. It includes all officers, staff & daily rated persons. There is no additional manpower requirement for the proposed modernization project.
- (vi) The project is reported to be beneficial in terms social and economic up-liftment in terms of indirect income generation opportunities
- (vii) Terms of reference – The TOR was granted vide Letter No.J-11015/91/2017-IA.II (M) 30.11.2017 and its amendment on 16th October 2019
- (viii) Total mining lease area as per block allotment is 927.17 ha. Mining Plan (Including Progressive Mine Closure Plan) has been approved by the Ministry of Coal on 03.05.2019
- (ix) The land use of the project is as follows:

Pre-mining Land use detail (Area in ha)

Sl.No.	Land Use	Within ML	Outside ML	Total
1	Agricultural Land	0.0	0.0	0.0
2	Forest Land	0.0	0.0	0.0
3	Wasteland	0.0	0.0	0.0
4	Grazing Land	0.0	0.0	0.0
5	Surface Water Bodies	0.0	0.0	0.0
6	Settlements	0.0	0.0	0.0
7	Others (Specify)	927.17	0.0	927.17
8	Old Excavation Area (East)	0.0	0.0	0.0
9	Old Excavation Area (West)	0.0	0.0	0.0
10	Old OB Dumps	0.0	0.0	0.0
11	Roads & Mine Infrastructure	0.0	0.0	0.0
12	R & R Colony	0.0	0.0	0.0
13	Staff Colony	0.0	0.0	0.0
14	Green Belt	0.0	0.0	0.0
15	Balance Area	0.0	0.0	0.0
	Total Project Area =	927.17	0.0	927.17

Post Mining Land use:

S. No.	Land use	Land use (ha)				Total
		Plantation	Water Body	Public Use	Undisturbed	
I	External OB Dump	10.00	0.00	0.00	0.00	10.00

2	Top Soil Dump	2.15	0.00	0.00	0.00	2.15
3	Excavation	10.40	1.10	0.00	0.00	11.50
4	Roads	0.00	0.00	9.60	0.00	9.60
5	Built-up Area (Colony/Office)	74.08	0.00	0.00	0.00	74.08
6	Green Belt	3.25	0.00	0.00	0.00	3.25
7	Undisturbed Area	0.00	0.00	0.00	0.00	0.00
8	Safety Zone / Rationalization	0.00	0.00	0.00	0.00	0.00
9	Diversion / Delineation	0.00	0.00	0.00	0.00	0.00
10	Water Body	0.00	81.26	0.00	0.00	81.26
11	Others (Agriculture, Rail, Village)	0.00	0.00	735.33	0.00	735.33
	Total Area=	99.88	82.36	744.93	0.00	927.17

- (x) Total geological reserve reported in the mine lease area is 204.0 Million Tonnes with 41.68 Million Tonnes mineable reserve. Out of total mineable reserve of 41.68 Million Tonnes, 27.09 Million Tonnes are available for extraction. Percent of extraction is 20.29 %.
- (xi) 5 seams with thickness ranging from 1.55 m to 8.06 m are workable. Grade of coal is W-III, stripping ratio (NA), while average gradient(degree) is 1 in 5
- (xii) Method of mining operations envisages by Underground mine extraction coal through Board & Pillar system method
- (xiii) Life of mine is 15 years.
- (xiv) Total quarry area is of 927.17 ha. Out of which 1.1 ha will be final mine void at a depth of 15.5m which will be developed into water body and plantation of 22.55 ha shall be done on back filled area.
- (xv) Transportation of coal has been proposed by through underground belt conveyor to washery in mine pit head.
- (xvi) This is an underground mine. Afforestation/ green belt development takes place every year on the open surface within leasehold areas.
- (xvii) No forest land is involved in the project.
- (xviii) No National parks, Wildlife Sanctuaries and Eco-Sensitive Zones within 10 km boundary of the project.
- (xix) The ground water level has been reported to be varying between 1.55 m to 8.06m during pre-monsoon and between 0.60 m to 8.55 m during post-monsoon. Total water requirement for the project is 11100 KLD.
- (xx) Application for obtaining the approval of the Central Ground Water Authority for 9550 KLD has been submitted on 12th March, 2017 and the NOC is granted by CGWA vide NOC No. CGWA/NOC/MIN/ORIG/2021/13422 dtd: 20/10/2021

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- (xxi) Public hearing for the project of 0.34 MTPA capacity in an area of 927.17 ha was conducted on 17th Feb 2020 at Kalimela Community Centre under the Chairmanship of ADC, Dhanbad. Major issues raised in the public hearing include employment, drinking water problems, electricity and education.
- (xxii) Appropriate action to address the issues raised in the Public Hearing have already been taken/proposed to be taken are as under.
- (xxiii) Consent to Operate for the existing capacity was obtained from the State PCB on 28.12.2021 and is valid till 31.12.2022. The coal production from the mine was started prior to year 1973-74. The coal production, realized from the project from 1993-94 onwards, is as under.
- (xxiv) No nallah will be diverted. The river/nalla near/adjacent to the mine are as follows:
- Kari Jhor (within ML area)
 - Dungri Jhor (within ML area)
 - Damodar River (within ML area)
 - Damohani nadi/Kashijora (2.2 km, E)
- (xxv) Regular monitoring of ambient air quality is being carried out on fortnightly basis. The documented report is submitted to JSPCB. In general, the results of ambient air quality monitoring data were found within prescribed limits except few aberrations which can be attributed to the specific local conditions during the day of sampling.
- (xxvi) No court cases, violation cases are pending against the project of the PP.
- (xxvii) The project does not involve violation of the EIA Notification, 2006 and amendment issued there under. The coal production from the mine was started from the year 1919 onwards. No excess production of coal from the sanctioned capacity has been realized since the commencement of mining operations. There is no project affected families and hence no R&R is required.
- (xxviii) Total cost of the project is Rs. 1942 lakhs. CSR cost is Rs. 12.49 per tonne, R&R cost is Rs 0.0 crores. Environment Management Cost is Rs 8.99 crores (2.73 crores in capital expenditure and 6.26 crores in recurring per annum)

4. The Expert Appraisal Committee (EAC) in its 30th EAC meeting held on 20th May, 2022 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 the proposal under violation category to EC for Jamadoba Underground Coal Mine of 0.34 MTPA in ML Area of 927.17 ha by M/s Tata steel Limited at village Jorapokhar, Pattiya Dungri, Tehsil Jharia, District Dhanbad (Jharkhand), under EIA Notification, 2006 and subsequent amendments/circulars thereto subject to the compliance of the following terms & conditions / specific conditions for environmental safeguards:-

- (i) PP to obtain the CTO for 0.34 MTPA capacity immediately after grant of EC.
- (ii) PP to conserve the Kari Jhore, Dungri Jhore, Damodar River flowing within the core area of the project and the measure taken for its conservation to be furnished in every six monthly compliances to be reported to respective IRO and SPCB
- (iii) Since there is also Jamadoba Coal washery located within the mine lease having separate EC vide Lr. No. J-11015/203/2011-IA.II(M) dated 3rd March 2014 so the adequate EMP measure to be adopted to minimize the cumulative impact, also the utilization of rejects generated from

- washery should be managed as per the norms. PP shall obtain integrated EC for future coal/washery expansion.
- (iv) PP shall obtain No Objection Certificate from Central Ground Water Authority for extraction of ground water within six months and submitted to IRO –Ranchi.
 - (v) PP shall reduce river sand used for stowing and explore usage of sand segregated from OB dump from any nearest mine (either its own or any other mine) and submit detailed report to IRO-Ranchi.
 - (vi) PP shall follow the recommendation of subsidence study and monitor the degree of subsidence regularly and shall be submitted to IRO-Ranchi.
 - (vii) PP to accomplish the recruitment of a full-fledged qualified manpower with Environmental Engineer/Env. Science degree background in Environment Management Cell etc within six months and same shall be reported to IRO, MoEF&CC
 - (viii) PP to fulfill all the commitment made to address the public hearing issued in time bound manner as committed in EIA EMP report in Chapter 7 Table 7.1 and a progressive report to be furnished to IRO with every six monthly compliance report
 - (ix) PP to maintain the transportation road properly to minimize 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.
 - (x) PP to complete the estimated allocated budgetary expenditure for EMP capital cost is Rs. 273.0 lakhs & Recurring cost is Rs. 1359.4 Lakhs per year as per its letter dated JMB/115/001339 dated 3rd September, 2021. Capital EMP budget shall be completed within strict timeline.
 - (xi) PP to monitor the water quality of the ground water and surface water body located within the core zone and 5 km radius from the periphery of the mine boundary as per procedure laid down by CPCB.
 - (xii) PP to install 1 more continuous ambient air quality monitoring stations at suitable locations preferably village side with consultation of SPCB. The real time data so generated shall be uploaded on company website and linked it with website of CPCB & SPCB. In addition, data should also be displayed digitally at entry and exit gate of mine lease area for public display.
 - (xiii) PP shall develop Rain water harvesting in Jamadoba coal Washery as proposed by PP in vide letter dated JMB/115/001339 dated 3rd September, 2021 & water harvesting ponds near the villages of suitable area as suggested by EAC in consultation with Gram Panchayat within 1 year and with cultivation of Lotus.
 - (xiv) PP must seek the input of experts for phytoremediation of Slurry and accordingly work on it with proper scientific approach
 - (xv) PP to plant additional 100,000 plants with three tier plantation along the transportation route, if not completed, and identified areas with consent to the gram panchayat within two year and plant for remaining within 2 years for their proper growth.
 - (xvi) 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

- (xvii) Proponent shall appoint an Occupational Health Specialist for Regular and Periodical medical examination of the workers engaged in the Project and maintain records accordingly; also, Occupational health check-ups for workers having some ailments like BP, diabetes, habitual smoking, etc. shall be undertaken once in six months and necessary remedial/preventive measures taken accordingly. The Recommendations of National Institute for ensuring good occupational environment for mine workers shall be implemented. The prevention measure for burns, malaria and provision of anti-snake venom including all other paramedical safeguards may be ensured before initiating the mining activities
- (xviii) Persons of nearby villages shall be given training on livelihood and skill development to make them employable with its proper records
- (xix) The illumination and sound at night at project sites disturb the villages in respect of both human and animal population. Consequent sleeping disorders and stress may affect the health in the villages located close to mining operations. Habitations have a right for darkness and minimal noise levels at night. PPs must ensure that the biological clock of the villages is not disturbed; by orienting the floodlights/ masks away from the villagers and keeping the noise levels well within the prescribed limits for day light/night hours
- (xx) 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.
- (xxi) PP should establish in house (at project site) environment laboratory for measurement of environment parameter with respect to air quality and water (surface and ground). A dedicated team to oversee environment management shall be setup which should comprise of Environment Engineers, Laboratory chemist and staff for monitoring of air, water quality parameters on routine basis. Any non-compliance or infringement should be reported to the concerned authority.

4.1 The grant of Environment Clearance (EC) is further subject to compliance of the Standard EC conditions as under:

(a) Statutory compliance:

- i. The Environmental clearance shall be subject to orders of Hon'ble Supreme Court of India, Hon'ble High Courts, NGT and any other Court of Law, from time to time, and as applicable to the project
- ii. 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.
- iii. The project proponent shall obtain clearance from the National Board for Wildlife, if applicable.
- iv. 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

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in consultation with the State Forest Department. The implementation report shall be furnished along with the six-monthly compliance report. (incase of the presence of schedule-I species in the study area)

- v. 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.
- vi. The project proponent shall obtain the necessary permission from the Central Ground Water Authority.
- vii. Solid waste/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

I. Air quality monitoring and preservation

- i. 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 particulates, SO₂ and NO_x. Location of the stations shall be decided based on the meteorological data, topographical features and environmentally and ecologically sensitive receptors in consultation with the State Pollution Control Board. Monitoring of heavy metals such as Hg, As, Ni, Cd, Cr, etc. to be carried out at least once in six months. Online ambient air quality monitoring station/stations may also be installed in addition to the regular air monitoring stations as per the requirement and/or in consultation with the SPCB
- 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 25.9.2000 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 sprinkling/rain gun/ mist sprinkling etc., shall be carried out in critical areas prone to air pollution with higher level of particulate matter all through the coal transport roads, 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. Major approach roads shall be black topped and properly maintained.
- v. The transportation of coal shall be carried out as per the provisions and route proposed in the approved mining 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 that the impact of sound, dust and accidents could be appropriately mitigated.

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- vi. 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.
- vii. 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.
- viii. 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.

(b) 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 25.9.2000 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-20012/1/2006-1A.11 (M) dated 27.05.2009 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. The project proponent shall not alter major water channels around the site. Appropriate embankment shall be provided along the side of the river/nallah flowing near or adjacent to the mine. The embankment constructed along the river/nallah boundary shall be of suitable dimensions and critical patches shall be strengthened by stone pitching on the river front side, stabilized with plantation so as to withstand the peak water pressure preventing any chance of mine inundation.

- vii. Garland drains (of suitable size, gradient and length) around the critical areas i.e. mine shaft and low lying areas, shall be designed keeping at least 50% safety margin over and above the peak sudden rainfall and maximum discharge in the area adjoining the mine sites. The sump capacity shall also provide adequate retention period to allow proper settling of silt material of the surface runoff
- viii. 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.
- ix. Industrial waste water from coal handling plant and mine water shall be properly collected and treated so as to conform to the standards prescribed under the Environment (Protection) Act, 1986 and the Rules made thereunder, and as amended from time to time. Oil and grease trap shall be installed before discharge of workshop effluent. Sewage treatment plant of adequate capacity shall be installed for treatment of domestic waste water.
- x. Adequate groundwater recharge measures shall be taken up for augmentation of ground water. The project authorities shall meet water requirement of nearby village(s) in case the village wells go dry due to dewatering of mine.
- xi. The surface drainage plan including surface water conservation plan for the area of influence affected by the said mining operations shall be prepared, considering the presence of any river/rivulet/pond/lake etc., with impact of mining activities on it, and implemented by the project proponent. The surface drainage plan and/or any diversion of natural water courses shall be as per the provisions of the approved Mining Plan/ EIA-EMP submitted to this Ministry and the same should be done with due approval of the concerned State/Govt 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.
- xii. The project proponent shall take all precautionary measures to ensure reverian/ riparian ecosystem in and around the coal mine upto a distance of 5 km. A revarian /riparian ecosystem conservation and management plan should be prepared and implemented in consultation with the irrigation / water resource department in the state government.

(c) Noise and Vibration monitoring and prevention

- i. Adequate measures shall be taken for control of noise levels below 85 dB(A) in the work environment. Workers engaged in underground mining operations, operation of HEMM, etc. shall be provided with personal protective equipments (PPE) like ear plugs/muffs in conformity with the prescribed norms/guidelines in this regard. Progress in usage of such accessories to be monitored. Adequate awareness programme for users to be conducted.
- ii. 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.

(d) 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. No change in mining method *i.e.* UG to OC, calendar programme and scope of work shall be made without obtaining prior approval of the Ministry of Environment, Forests and Climate Change (MoEFCC).
- iii. 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).
- iv. Underground work place environmental conditions shall be rendered ergonomic and air breathable with adequate illumination in conformance with DGMS standards.
- v. No mining activity shall be carried out in forest land without obtaining Forestry Clearance as per Forest (Conservation) Act, 1980 and also adhering to The Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 read with provisions of Indian Forest Act, 1927.
- vi. Efforts should be made to reduce energy and fuel consumption by conservation, efficiency improvements and use of renewable energy.

(e) 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. Post-mining land be rendered usable for agricultural/forestry purposes and shall be handed over to the respective State Government, as specified in the Guidelines for Preparation of Mine Closure Plan, issued by the Ministry of Coal dated 27th August, 2009 and subsequent amendments.
- iii. Regular monitoring of subsidence movement on the surface over and around the working areas and its impact on natural drainage pattern, water bodies, vegetation, structure, roads and surroundings shall be continued till movement ceases completely. In case of observation of any high rate of subsidence beyond the limit prescribed, appropriate effective mitigation measures shall be taken to avoid loss of life and materials. Cracks should be effectively plugged in with ballast and clay soil/suitable material.
- 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, alongwith fly ash for external dump of overburden, backfilling or stowing of mines. Compliance report shall be submitted to Regional Office of MoEF&CC, CPCB and SPCB.

- v. A separate team for subsidence monitoring and surface mitigation measures shall be constituted and continuous monitoring & implementation of mitigation measures be carried out.
- vi. Thorough inspection of the mine lease area for any cracks developed at the surface due to mining activities below ground shall be carried out to prevent inrush of water in the mine.
- vii. Native tree species shall be selected and planted over areas affected by subsidence.
- viii. 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.

(f) Green Belt

- i. The project proponent shall take all precautionary measures during mining operation for conservation and protection of endangered flora/fauna, if any, spotted/reported in the study area. 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 three-tier plantation, of width not less than 7.5 m, shall be developed all along the mine lease area in a phased manner. The green belt comprising of a mix of native species shall be developed all along the major approach roads/ coal transportation roads.

(g) Public hearing and Human health issues

- i. Adequate illumination shall be ensured in all mine locations (as per DGMS standards) and monitored.
- ii. The Project Proponent shall undertake Occupational Health survey for initial and Periodical medical examination of the workers engaged in the Project and maintain records accordingly as per the provisions of the Mines Rules, 1955 and DGMS Circulars. Besides carrying out regular periodic health check-up of their workers, 20% of the workers engaged in active mining operations shall be subjected to health check-up for occupational diseases and hearing impairment, if any.
- iii. Personnel (including outsourcing employees) working in dusty areas shall wear protective respiratory devices and shall also be provided with adequate training and information on safety and health aspects.
- iv. Skill training as per safety norms specified by DGMS shall be provided to all workmen including the outsourcing employees to ensure high safety standards in mines.
- v. Effective arrangement shall be made to provide and maintain at suitable points conveniently situated, a sufficient supply of drinking water for all the persons employed.

- vi. Implementation of Action Plan on the issues raised during the Public Hearing shall be ensured. The Project Proponent shall undertake all the tasks as per the Action Plan submitted with budgetary provisions during the Public Hearing. Land oustees shall be compensated as per the norms laid out R&R Policy of the Company/ or the National R&R Policy/ R&R Policy of the State Government, as applicable
- vii. The project proponent shall follow the mitigation measures provided in this Ministry's OM No. Z-11013/5712014-IA.II (M) dated 29th October, 2014, titled 'Impact of mining activities on habitations-issues related to the mining projects wherein habitations and villages are the part of mine lease areas or habitations and villages are surrounded by the mine lease area'.

(h) Corporate Environment Responsibility

- i. 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. The copy of the board resolution in this regard shall be submitted to the MoEF&CC as a part of six-monthly report.
- ii. 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.
- iii. 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.
- iv. Self-Environmental audit shall be conducted annually. Every three years third party environmental audit shall be carried out.

(i) Miscellaneous

- (i) The project proponent shall make public the environmental clearance granted for their project along with the environmental conditions and safeguards at their cost by prominently advertising it at least in two local newspapers of the District or State, of which one shall be in the vernacular language within seven days and in addition this shall also be displayed in the project proponent's website permanently.
- (ii) The copies of the environmental clearance shall be submitted by the project proponents to the Heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt.

- (iii) The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and update the same on half-yearly basis.
- (iv) The project proponent shall monitor the criteria pollutants level namely; PM₁₀, SO₂, NO_x (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 29th October, 2014, titled 'Impact of mining activities on habitations-issues related to the mining projects wherein habitations and villages are the part of mine lease areas or habitations and villages are surrounded by the mine lease area'.
- (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.

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. 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.

8. The coal company/project proponent shall be liable to pay the compensation against the illegal mining, if any, and as raised by the respective State Governments at any point of time, in terms of the orders dated 2nd August, 2017 of Hon'ble Supreme Court in WP (Civil) No.114/2014 in the matter of 'Common Cause Vs Union of India & others.

9. 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.

10. 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 Secretary, Department of Environment & Forests, Government of Jharkhand, Secretariat Ranchi
3. The APCCF (ECZ), MoEF&CC, RO Bunglow no. A-2, Shyamali Colony, Ranchi 834002
4. The Chairman, Central Pollution Control Board, CBD-cum-Office Complex, East Arjun Nagar, Delhi - 32
5. The Chairman, Jharkhand State Pollution Control Borad, TA Building, HEC Complex, PO Dhruva, Ranchi

6. The Chairman, Central Ground Water Authority, Ministry of Jal Shakti, Jamnagar House,
18/11, Man Singh Road Area, New Delhi, Delhi 110001
7. The District Collector, Dhanbad, Government of Jharkhand
8. Monitoring File /Record File
9. PARIVESH Portal


(Lalit Bokolia)
Director

