

J-11015/54/2017-IA.II (M)

Government of India

Ministry of Environment, Forest and Climate Change

Impact Assessment Division

Indira Paryavaran Bhavan,
Jor Bagh Road, New Delhi-110 003

Dated: 28th April, 2020

To

Shri Anil Kumar Kashyap, Chief Engineer (Mining),
M/s Damodar Valley Corporation (DVC), DVC Towers, VIP Road,
Kolkata - 700054 ((West Bengal)
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Sub: Tubed Coal Mine Project of 6 MTPA of M/s Damodar Valley Corporation located in near Villages Tubed, mangra, dihi, ambajharan, dhobiajharan, nawari, Tehsil Latehar, District Latehar (Jharkhand) – Environment Clearance - reg.

Sir,

This refers to your online proposal No. IA/JH/CMIN/65302/2017 dated 28th Nov 2019 on the above mentioned subject.

2. The Ministry of Environment, Forest and Climate Change has considered the proposal for grant of Environment Clearance to Tubed Coal Mine Project of 6 MTPA of M/s Damodar Valley Corporation located in near Villages Tubed, mangra, dihi, ambajharan, dhobiajharan, nawari, Tehsil Latehar, District Latehar (Jharkhand).

3. The proposal was considered by the EAC in its 51st meeting held on 5th December, 2019. 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) The project area is covered under Survey of India Topo Sheet No F45/A9 and is bounded by the geographical coordinates ranging from 23°48'20" to 23°50'09" N and longitudes 84°34'09" and 84°35'45" E.
- (ii) Coal linkage of the project is proposed for MTPS Unit # 7 & 8 and CTPS Unit #8
- (iii) Joint venture cartel has been formed – Not Applicable
- (iv) Project does not fall in the Critically Polluted Area (CPA), where the MoEF&CC's vide its OM dated 13th January, 2010 has imposed moratorium on grant of environment clearance.
- (v) Employment generation, employment to 1200 persons will be provided from the project.

- (vi) The project is reported to be beneficial in terms of Socio-economic development of the local population.
- (vii) Total mining lease area as per block allotment is 460 ha. Mining Plan (Including Progressive Mine Closure Plan) has been approved by the MoC, GoI on 12.10.2009 for Mine Plan and 10.08.2011 for Progressive Mine Closure Plan.
- (viii) The land usage pattern of the project is as follows:

Pre-mining land use details

(Area in Ha)

S.No.	Land Use	Within ML Area	Outside ML Area	Total
1	Agricultural Land	230	-	230
2	Forest Land	162.4	-	162.4
3	Wasteland	39	-	39
4	Grazing Land	-	-	-
5	Surface Water Bodies	22	-	22
6	Settlements	1	-	1
7	Others (Specify)	-	-	-
	Old Excavation Area (East Quarry)	-	-	-
	Old Excavation Area (West Quarry)	-	-	-
	Old OB Dumps	-	-	-
	Roads & Mine Infrastructure	5.6	-	5.6
	R & R Colony	-	-	-
	Staff Colony	-	-	-
	Green Belt	-	-	-
	Balance Area	-	-	-
	Total Project Area =	460	Nil	460

Post Mining

S. No.	Land use	Land use (ha)				Total
		Plantation	Water Body	Public Use/	Undisturbed	
1	External OB Dump	63	-	-	-	63
2	Top Soil Dump	-	-	-	-	-
3	Excavation	330	12	8	-	350
4	Road	3	-	4	-	7
5	Built-up Area	7	-	3	-	10
6	Green Belt	-	-	-	-	-
7	Undisturbed Area	-	-	-	-	-
8	Safety Zone / Rationalization Area	16	-	-	-	16
9	Diversion Below River / Nala	4	10	-	-	14

	Canal					
10	Water Body	-	-	-	-	-
11	Staff Colony	-	-	-	-	-
	Total Area =	423	22	15	-	460

- (ix) Total geological reserve reported in the mine lease area is 189.82 MT with 170.83 MT mineable reserve. Out of total mineable reserve of 170.83 MT, 139 MT are available for extraction. Percent of extraction is 81.3%.
- (x) 12 seams with thickness ranging from 0.10 m to 15 m are workable. Grade of coal is mostly F Grade, stripping ratio 2.15, while gradient is 3° to 15°.
- (xi) Method of mining operations envisages by Open Cast (Shovel Dumper & Surface Miner) method.
- (xii) Life of mine is 30 years.
- (xiii) The project has 1 external OB dumps in an area of 63 ha with +110 m height over ground RL of 390 m to 410 mt and 55 Mm³ of OB. Existing OB Dumps shall be re-handled and backfilled in 12th, 13th and 14th year. The OB from the current mining operations shall be backfilled from 1st year onwards. 2 internal OB in an area of 350 ha with 215.Mm³ of OB is envisaged in the project.
- (xiv) Total quarry area is 350 ha out of which backfilling will be done in 350 ha while final mine void will be created in an area of 4 Ha with a depth of 30 to 40 m. Backfilled quarry area of 330 ha shall be reclaimed with plantation. Final mine void will be converted Water Body.
- (xv) Transportation of coal has been proposed by Dumpers in mine pit head, from surface to siding by Road and at sidings by Rail. Dedicated railway siding is proposed for evacuation of coal. As an interim measure coal will be transported to nearby Railway Siding by Road till the commissioning of the siding.
- (xvi) Reclamation Plan in an area of 460.ha, comprising of 63 ha of external dump, 350 ha of internal dump and 8.7 ha of green belt. In addition to this, an area of 6.7 ha, included in the safety zone/rationalization area, has also been proposed for green belt development.
- (xvii) 162.394 ha of forest land has been reported to be involved in the project. Stage I Approval under the Forest (Conservation) Act, 1980 for diversion of 162.394 ha of forest land for non-forestry purposes has been obtained vide MoEF&CC letter No. F No 8-23/2019-FC dated 13.11.2019
- (xviii) No National Parks, Wildlife Sanctuaries and Eco-Sensitive Zones have been reported with 10 km boundary of the project.
- (xix) The ground water level has been reported to be varying between 12m to 15 m during pre-monsoon and between 10m to 12 m during post-monsoon. Total water requirement for the project is 750 KLD.

- (xx) Approval of the Central Ground Water Authority for 810m³/Day has been obtained on 05.09.2019 vide NOC No. CGWA/NOC/MIN/ORIG/2019/5876.
- (xxi) Public hearing for the project of 6 MTPA capacity in an area of 460 ha was conducted on 10.01.2019 at Latchar. Major issues raised in the public hearing include Land Compensation, R&R, Socio-economic Development and Environment protection. Appropriate action to address the issues raised in the Public Hearing have already been taken/proposed to be taken are as under:
- Land Compensation will be payable as per LA Act, 2013
 - R&R will be done as per schedule II of the LA Act, 2013
 - R&R Colony will be constructed as per schedule III off the LA Act, 2013
 - Suitable person will be given employment in unskilled category.
- (xxii) Sukri River/nalla is flowing through boundary of lease. The nallah will be diverted in consultation with the Water Resource Department of the State Government. In principle approval is accorded by the WRD Government of Jharkhand.
- (xxiii) No court cases/violation cases are pending against the project of the PP.
- (xxiv) The project involves 418 project affected families. R&R of the PAPs will be done as per LA Act 2013.
- (xxv) Total cost of the project is Rs. 130000 lakhs. Cost of production is Rs. 700 /- per tonne., CSR cost is Rs. 6.75per tonne. R&R cost is Rs. 78.18 crores. Environment Management cost is Rs. 42.8 crores
- (xxvi) Tubed Coal block (460 ha.) of Auranga Coal Field is allotted in favour of "Damodar Valley Corporation" incorporated in India under the Damodar Valley Corporation Act, 1948, by Government of India. Ministry of Coal. Office of the Nominated Authority constituted under section 6 of the Coal Mines (Special Provision) Act, 2015, Allotment Order no. 103/04/2016/NA on dated 07.10.2016 under clause (c) of sub-rule (2) of rule 7 and sub-rule (1) of rule 13. DVC is deemed lessee as per section 11 of CBA act.
- (xxvii) Mining Plan and Mine Closure Plan for Tubed Coal Mine have been approved by Ministry of Coal vide letter No. 13016/19/2009-CA-I dated 12.10.2009 and vide Letter No. 34011-03-2011-CPAM on dated 10.08.2011 respectively. Same has been transferred along with Allotment Order on dated 07.10.2016 in the name of Damodar Valley Corporation
- (xxviii) ToR for the proposal was granted by this Ministry vide letter dated 16th March, 2018.
- (xxix) The diversion plan has been accepted 'In principal' by Office of the Chief Engineer Design, Master Planning & Hydrology (Water Resource Department), Jal Bhawan, Ranchi vide letter no. SE/canal/304/plan/2019/1045 on dated 13.11.2019.
- (xxx) NOC for ground water abstraction has been issued by Ministry of Jal Shakti, Department

of Water Resources, River Development & Ganga Rejuvenation, Central Ground water Authority vide NOC no. CGWA/NOC/MIN/ORIG/2019/5876 valid from 14.08.2019 to 13/08/2021.

4. The EAC, constituted under the provision of the EIA Notification, 2006 and comprising of Experts Members/domain experts in various fields, have examined the proposal submitted by the Project Proponent. The EAC has deliberated the proposal and has made due diligence in the process as notified under the provisions of the EIA Notification, 2006, as amended from time to time and accordingly made the recommendations to the proposal. The Experts Members of the EAC have found the proposal in order and have recommended for grant of Environmental Clearance (EC).

5. The Expert Appraisal Committee in its 51st meeting held on 5th December, 2019 has recommended the proposal for grant of Environment Clearance (EC). Based on the recommendations of the EAC, the Ministry of Environment, Forest and Climate Change hereby accords approval for grant of Environment Clearance (EC) to **Tubed Coal Mine Project of 6 MTPA of M/s Damodar Valley Corporation located in near Villages Tubed, mangra, dihi, ambajharan, dhobiajharan, nawari, Tehsil Latehar, District Latehar (Jharkhand)**, under the provision of EIA Notification, 2006 and under the provisions of the Environment Impact Assessment Notification, 2006 and subsequent amendments/circulars thereto subject to the compliance of the following terms & conditions / specific conditions in addition to the standard environmental conditions notified by the ministry and specific conditions mentioned below:

A. Specific conditions:

- (i) The project proponent shall obtain Consent to Establish/Operate from the State Pollution Control Boards for the proposed peak capacity of 6 MTPA prior to commencement of the increased production.
- (ii) Transportation of coal from Coal Handling Plant shall be through covered trucks.
- (iii) To control the production of dust at source, the crusher and in-pit belt conveyors shall be provided with mist type sprinklers.
- (iv) Mitigating measures shall be undertaken to control dust and other fugitive emissions all along the roads by providing sufficient water sprinklers. Adequate corrective measures shall be undertaken to control dust emissions, 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 loading and unloading points, etc. 2-3 tier of native tree with broad leaves of plantation shall be carried out all along the road transportation till Ritchughuta Railway Station (as proposed).
- (v) The company shall obtain approval of CGWA for use of groundwater for mining operations at its enhanced capacity of 6 MTPA. All the stipulated in the NOC vide no.

CGWA/NOC/MIN/ORIG/2019/5876 valid from 14.08.2019 to 13/08/2021 shall be complied.

- (vi) Continuous monitoring of occupational safety and other health hazards, and the corrective actions need to be ensured.
- (vii) Persons of nearby villages shall be given training on livelihood and skill development to make them employable.
- (viii) To ensure health and welfare of nearby villages, regular medical camps shall be organized at least once in six months.
- (ix) Thick green belt of adequate width at the final boundary in the down wind direction of the project site shall be developed to mitigate/check the dust pollution. No shrubs/bushes shall be planted and only trees of native species shall be planted
- (x) Efforts shall be made for utilizing alternate sources of surface water, abandoned mines or else whatsoever and thus minimizing the dependability on a single source.
- (xi) The activities and fund provisions for CER shall be made as per the guidelines issued by the ministry regarding CER on 1st May, 2018.
- (xii) Project Proponent shall obtain blasting permission from DGMS for conducting mining operation near villages and also explore deployment of rock breakers of suitable capacity in the project to avoid blasting very near to villages. There shall be no damages caused to habitation/structures due to blasting activity.
- (xiii) Distance of 100 meters shall be maintained from the bank of Surkhi river (both side) during mining operation till the permission for diversion of river is obtained from concerned statutory authority.
- (xiv) All the recommendation of approved Wild Life Conservation Plan shall be complied
- (xv) No transportation of coal shall be carried by road after commission of proposed railway siding near the coal mine i.e. after 36 months from the date of issue of EC.
- (xvi) The Project Proponent shall comply with all the statutory requirements and judgment of Hon'ble Supreme Court dated the 2nd August 2017 in Writ Petition (Civil) No. 114 of 2014 in the matter of Common Cause versus Union of India and Ors. State Government shall ensure that the entire compensation levied, if any, for illegal mining paid by the Project Proponent through their respective Department in strict compliance of judgment of Hon'ble Supreme Court dated the 2nd August 2017 in Writ Petition (Civil) No. 114 of 2014 in the matter of Common Cause versus Union of India and Ors.
- (xvii) Project Proponent shall obtain the necessary prior permission from the Central Ground Water Authority (CGWA) in case of intersecting the Ground water table. The intersecting ground water table can only be commenced after conducting detailed hydrogeological

study and necessary permission from the CGWA. The Report on six monthly basis on changes in Ground water level and quality shall be submitted to the Regional Office of the Ministry, CGWA and State Pollution Control Board.

- (xviii) 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 antsnake venom including all other paramedical safeguards may be ensured before initiating the mining activities.
- (xix) Project Proponent shall follow the mitigation measures provided in Office Memorandum No. Z-11013/57/2014-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".
- (xx) 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.
- (xxi) 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.
- (xxii) Study the stability of OB dump beyond 90 m and further necessary permission for DGMS shall be taken for increasing the height of OB. Recommendation of the study shall be implemented and further submitted to Ministry's Regional Office.
- (xxiii) Install in-pit conveyor from the pit bottom upto the silo loading point/rapid loading system within 3 yrs and further no transportation shall be carried over by trucks to railway siding
- (xxiv) Necessary permission from water resources department shall be taken to dump OB for embankment within one year of dumping OB near Sukri River."
- (xxv) Hon'ble Supreme Court in an Writ Petition(s) Civil No. 114/2014, Common Cause vs

Union of India & Ors vide its judgement dated 8th January, 2020 has directed the Union of India to impose a condition in the mining lease and a similar condition in the environmental clearance and the mining plan to the effect that the mining lease holders shall, after ceasing mining operations, undertake re-grassing the mining area and any other area which may have been disturbed due to their mining activities and restore the land to a condition which is fit for growth of fodder, flora, fauna etc. Compliance of this condition after the mining activity is over at the cost of the mining lease holders/Project Proponent". The implementation report of the above said condition shall be sent to the Ministry's Regional Office for site inspection/verification.

5.1 The grant of Environment Clearance is further subject to compliance of the **Standard EC conditions** as under:

(a) Statutory compliance

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

(b) Air quality monitoring and preservation

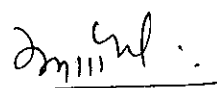
- (i) Continuous ambient air quality monitoring stations as prescribed in the statute be established in the core zone as well as in the buffer zone for monitoring of pollutants, namely PM₁₀, PM_{2.5}, SO₂ and NO_x. Location of the stations shall be decided based on the meteorological data, topographical features and environmentally and ecologically sensitive targets in consultation with the State Pollution Control Board. Online ambient

air quality monitoring stations may also be installed in addition to the regular monitoring stations as per the requirement and/or in consultation with the SPCB. Monitoring of heavy metals such as Hg, As, Ni, Cd, Cr, etc to be carried out at least once in six months.

- (ii) The Ambient Air Quality monitoring in the core zone shall be carried out to ensure the Coal Industry Standards notified vide GSR 742 (E) dated 25th September, 2000 and as amended from time to time by the Central Pollution Control Board. Data on ambient air quality and heavy metals such as Hg, As, Ni, Cd, Cr and other monitoring data shall be regularly reported to the Ministry/Regional Office and to the CPCB/SPCB.
- (iii) Transportation of coal, to the extent permitted by road, shall be carried out by covered trucks/conveyors. Effective control measures such as regular water/mist sprinkling/rain gun etc shall be carried out in critical areas prone to air pollution (with higher values of PM₁₀/PM_{2.5}) such as haul road, loading/unloading and transfer points. Fugitive dust emissions from all sources shall be controlled regularly. It shall be ensured that the Ambient Air Quality parameters conform to the norms prescribed by the Central/State Pollution Control Board.
- (iv) The transportation of coal shall be carried out as per the provisions and route envisaged in the approved Mining Plan or environment monitoring plan. Transportation of the coal through the existing road passing through any village shall be avoided. In case, it is proposed to construct a 'bypass' road, it should be so constructed so that the impact of sound, dust and accidents could be appropriately mitigated.
- (v) Vehicular emissions shall be kept under control and regularly monitored. All the vehicles engaged in mining and allied activities shall operate only after obtaining 'PUC' certificate from the authorized pollution testing centres.
- (vi) Coal stock pile/crusher/feeder and breaker material transfer points shall invariably be provided with dust suppression system. Belt-conveyors shall be fully covered to avoid air borne dust. Side cladding all along the conveyor gantry should be made to avoid air borne dust. Drills shall be wet operated or fitted with dust extractors.
- (vii) Coal handling plant shall be operated with effective control measures w.r.t. various environmental parameters. Environmental friendly sustainable technology should be implemented for mitigating such parameters.

(c) Water quality monitoring and preservation

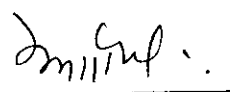
- (i) The effluent discharge (mine waste water, workshop effluent) shall be monitored in terms of the parameters notified under the Water Act, 1974 Coal Industry Standards vide GSR 742 (E) dated 25th September, 2000 and as amended from time to time by the Central Pollution Control Board.
- (ii) The monitoring data shall be uploaded on the company's website and displayed at the project site at a suitable location. The circular No.J-20012/1/2006-1A.11 (M) dated 27th



May, 2009 issued by Ministry of Environment, Forest and Climate Change shall also be referred in this regard for its compliance.

- (iii) Regular monitoring of ground water level and quality shall be carried out in and around the mine lease area by establishing a network of existing wells and constructing new piezometers during the mining operations. The monitoring of ground water levels shall be carried out four times a year i.e. pre-monsoon, monsoon, post-monsoon and winter. The ground water quality shall be monitored once a year, and the data thus collected shall be sent regularly to MOEFCC/RO.
- (iv) Monitoring of water quality upstream and downstream of water bodies shall be carried out once in six months and record of monitoring data shall be maintained and submitted to the Ministry of Environment, Forest and Climate Change/Regional Office.
- (v) Ground water, excluding mine water, shall not be used for mining operations. Rainwater harvesting shall be implemented for conservation and augmentation of ground water resources.
- (vi) Catch and/or earland drains and siltation ponds in adequate numbers and appropriate size shall be constructed around the mine working, coal heaps & OB dumps to prevent run off of water and flow of sediments directly into the river and water bodies. Further, dump material shall be properly consolidated/ compacted and accumulation of water over dumps shall be avoided by providing adequate channels for flow of silt into the drains. The drains/ ponds so constructed shall be regularly de-silted particularly before onset of monsoon and maintained properly. Sump capacity should provide adequate retention period to allow proper settling of silt material. The water so collected in the sump shall be utilised for dust suppression and green belt development and other industrial use. Dimension of the retaining wall constructed, if any, at the toe of the OB dumps within the mine to check run-off and siltation should be based on the rainfall data. The plantation of native species to be made between toe of the dump and adjacent field/habitation/water bodies.
- (vii) Adequate groundwater recharge measures shall be taken up for augmentation of ground water. The project authorities shall meet water requirement of nearby village(s) after due treatment conforming to the specific requirement (standards).
- (viii) Industrial waste water generated from CHP, workshop and other waste water, shall be properly collected and treated so as to conform to the standards prescribed under the standards prescribed under Water Act 1974 and Environment (Protection) Act, 1986 and the Rules made there under, and as amended from time to time. Adequate ETP /STP needs to be provided.
- (ix) The water pumped out from the mine, after siltation, shall be utilized for industrial purpose *viz.* watering the mine area, roads, green belt development *etc.* The drains shall be regularly desilted particularly after monsoon and maintained properly.

- (x) The surface drainage plan including surface water conservation plan for the area of influence affected by the said mining operations, considering the presence of river/rivulet/pond/lake etc, shall be prepared and implemented by the project proponent. The surface drainage plan and/or any diversion of natural water courses shall be as per the approved Mining Plan/EIA/EMP report and with due approval of the concerned State/GoI Authority. The construction of embankment to prevent any danger against inrush of surface water into the mine should be as per the approved Mining Plan and as per the permission of DGMS or any other authority as prescribed by the law.
- (xi) The project proponent shall take all precautionary measures to ensure riverine/riparian ecosystem in and around the coal mine up to a distance of 5 km. A riverine/riparian ecosystem conservation and management plan should be prepared and implemented in consultation with the irrigation / water resource department in the state government.
- (d) Noise and Vibration monitoring and prevention**
- (i) Adequate measures shall be taken for control of noise levels as per Noise Pollution Rules, 2016 in the work environment. Workers engaged in blasting and drilling operations, operation of HEMM, etc shall be provided with personal protective equipments (PPE) like ear plugs/muffs in conformity with the prescribed norms and guidelines in this regard. Adequate awareness programme for users to be conducted. Progress in usage of such accessories to be monitored.
- (ii) Controlled blasting techniques shall be practiced in order to mitigate ground vibrations, fly rocks, noise and air blast etc., as per the guidelines prescribed by the DGMS.
- (iii) The noise level survey shall be carried out as per the prescribed guidelines to assess noise exposure of the workmen at vulnerable points in the mine premises, and report in this regard shall be submitted to the Ministry/RO on six-monthly basis.
- (e) Mining Plan**
- (i) Mining shall be carried out under strict adherence to provisions of the Mines Act 1952 and subordinate legislations made there-under as applicable.
- (ii) Mining shall be carried out as per the approved mining plan(including Mine Closure Plan) abiding by mining laws related to coal mining and the relevant circulars issued by Directorate General Mines Safety (DGMS).
- (iii) No mining shall be carried out in forest land without obtaining Forestry Clearance as per Forest (Conservation) Act, 1980.
- (iv) Efforts should be made to reduce energy and fuel consumption by conservation, efficiency improvements and use of renewable energy.
- (f) Land reclamation**



- (i) Digital Survey of entire lease hold area/core zone using Satellite Remote Sensing survey shall be carried out at least once in three years for monitoring land use pattern and report in 1:50,000 scale or as notified by Ministry of Environment, Forest and Climate Change(MOEF&CC) from time to time shall be submitted to MOEFCC/Regional Office (RO).
- (ii) The final mine void depth should preferably be as per the approved Mine Closure Plan, and in case it exceeds 40 m, adequate engineering interventions shall be provided for sustenance of aquatic life therein. The remaining area shall be backfilled and covered with thick and alive top soil. Post-mining land be rendered usable for agricultural/forestry purposes and shall be diverted. Further action will be treated as specified in the guidelines for Preparation of Mine Closure Plan issued by the Ministry of Coal dated 27th August, 2009 and subsequent amendments.
- (iii) The entire excavated area, backfilling, external OB dumping (including top soil) and afforestation plan shall be in conformity with the "during mining"/"post mining" land-use pattern, which is an integral part of the approved Mining Plan and the EIA/EMP submitted to this Ministry. Progressive compliance status vis-a-vis the post mining land use pattern shall be submitted to the MOEFCC/RO.
- (iv) Fly ash shall be used for external dump of overburden, backfilling or stowing of mine as per provisions contained in clause (i) and (ii) of subparagraph (8) of fly ash notification issued vide SO 2804 (E) dated 3rd November, 2009 as amended from time to time. Efforts shall be made to utilize gypsum generated from Flue Gas Desulfurization (FGD), if any, along with fly ash for external dump of overburden, backfilling of mines. Compliance report shall be submitted to Regional Office of MoEF&CC, CPCB and SPCB.
- (v) Further, it may be ensured that as per the time schedule specified in mine closure plan it should remain live till the point of utilization. The topsoil shall temporarily be stored at earmarked sites only and shall not be kept unutilized. The top soil shall be used for land reclamation and plantation purposes. Active OB dumps shall be stabilised with native grass species to prevent erosion and surface run off. The other overburden dumps shall be vegetated with native flora species. The excavated area shall be backfilled and afforested in line with the approved Mine Closure Plan. Monitoring and management of rehabilitated areas shall continue until the vegetation becomes self-sustaining. Compliance status shall be submitted to the Ministry of Environment, Forest and Climate Change/ Regional Office.
- (vi) The project proponent shall make necessary alternative arrangements, if grazing land is involved in core zone, in consultation with the State government to provide alternate areas for livestock grazing, if any. In this context, the project proponent shall implement the directions of Hon'ble Supreme Court with regard to acquiring grazing land.
- (g) **Green Belt**

- (i) The project proponent shall take all precautionary measures during mining operation for conservation and protection of endangered/endemic flora/fauna, if any, spotted/reported in the study area. The Action plan in this regard, if any, shall be prepared and implemented in consultation with the State Forest and Wildlife Department.
- (ii) Greenbelt consisting of 3-tier plantation of width not less than 7.5 m shall be developed all along the mine lease area as soon as possible. The green belt comprising a mix of native species (endemic species should be given priority) shall be developed all along the major approach/ coal transportation roads.

(h) Public hearing and Human health issues

- (i) Adequate illumination shall be ensured in all mine locations (as per DGMS standards) and monitored weekly. The report on the same shall be submitted to this ministry & its RO on six-monthly basis.
- (ii) The project proponent shall undertake occupational health survey for initial and periodical medical examination of the personnel engaged in the project and maintain records accordingly as per the provisions of the Mines Rules, 1955 and DGMS circulars. Besides regular periodic health check-up, 20% of the personnel identified from workforce engaged in active mining operations shall be subjected to health check-up for occupational diseases and hearing impairment, if any, as amended time to time.
- (iii) Personnel (including outsourced employees) working in core zone shall wear protective respiratory devices and shall also be provided with adequate training and information on safety and health aspects.
- (iv) Implementation of the action plan on the issues raised during the public hearing shall be ensured. The project proponent shall undertake all the tasks/measures as per the action plan submitted with budgetary provisions during the public hearing. Land oustees shall be compensated as per the norms laid down in the R&R policy of the company/State Government/Central Government, as applicable.
- (v) The project proponent shall follow the mitigation measures provided in this Ministry's 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'.

(i) Corporate Environment Responsibility

- (i) The project proponent shall comply with the provisions contained in this Ministry's OM vide F.No.22-65/2017-IA.III dated 1st May 2018, as applicable, regarding Corporate Environment Responsibility.
- (ii) The company shall have a well laid down environmental policy duly approve by the Board of Directors. The environmental policy should prescribe for standard operating

procedures to have proper checks and balances and to bring into focus any infringements/deviation/violation of the environmental/forest/wildlife norms/conditions. The company shall have defined system of reporting infringements/deviation/violation of the environmental/forest/wildlife norms/conditions and/or shareholders/stake holders.

- (iii) A separate Environmental Cell both at the project and company head quarter level, with qualified personnel shall be set up under the control of senior Executive, who will directly to the head of the organization.
- (iv) Action plan for implementing EMP and environmental conditions along with responsibility matrix of the company shall be prepared and shall be duly approved by competent authority. The year wise funds earmarked for environmental protection measures shall be kept in separate account and not to be diverted for any other purpose. Year wise progress of implementation of action plan shall be reported to the Ministry/Regional Office along with the Six Monthly Compliance Report.
- (v) Self environmental audit shall be conducted annually. Every three years third party environmental audit shall be carried out.
- (j) Miscellaneous**
 - (i) The project proponent shall make public the environmental clearance granted for their project along with the environmental conditions and safeguards at their cost by prominently advertising it at least in two local newspapers of the District or State, of which one shall be in the vernacular language within seven days and in addition this shall also be displayed in the project proponent's website permanently.
 - (ii) The copies of the environmental clearance shall be submitted by the project proponents to the Heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt.
 - (iii) The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and update the same on half-yearly basis.
 - (iv) The project proponent shall monitor the criteria pollutants level namely; PM₁₀, SO₂, NO_x (ambient level) 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-11/13/5712014-IA.11 (M) dated 29th October, 2014, titled 'Impact of mining

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activities on habitations-issues related to the mining projects wherein habitations and villages are the part of mine lease areas or habitations and villages are surrounded by the mine lease area’.

- (vii) The project proponent shall submit the environmental statement for each financial year in Form-V to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently and put on the website of the company.
 - (viii) The project authorities shall inform to the Regional Office of the MOEFCC regarding commencement of mining operations.
 - (ix) The project authorities must strictly adhere to the stipulations made by the State Pollution Control Board and the State Government.
 - (x) The project proponent shall abide by all the commitments and recommendations made in the EIA/EMP report, commitment made during Public Hearing and also that during their presentation to the Expert Appraisal Committee.
 - (xi) No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment, Forests and Climate Change.
 - (xii) Concealing factual data or submission of false/fabricated data may result in revocation of this environmental clearance and attract action under the provisions of Environment (Protection) Act, 1986.
 - (xiii) The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.
 - (xiv) The Ministry reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner shall implement these conditions.
 - (xv) The Regional Office of this Ministry shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data / information/monitoring reports.
 - (xvi) The above conditions shall be enforced, inter-alia under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, Hazardous and Other Wastes (Management and Trans-boundary Movement) Rules, 2016 and the Public Liability Insurance Act, 1991 along with their amendments and Rules and any other orders passed by the Hon'ble Supreme Court of India / High Courts and any other Court of Law relating to the subject matter.
6. The proponent shall abide by all the commitments and recommendations made in the EIA/EMP report and also that during presentation to the EAC. All the commitments made on the issues raised during public hearing shall also be implemented in letter and

spirit.

7. **The proponent shall obtain all necessary clearances/approvals that may be required before the start of the project.** The Ministry or any other competent authority may stipulate any further condition for environmental protection. The Ministry or any other competent authority may stipulate any further condition for environmental protection.
8. Any appeal against this Environment Clearance shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.
9. The coal company/project proponent shall be liable to pay the compensation against the illegal mining, if any, and as raised by the respective State Governments at any point of time, in terms of the orders dated 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.
10. The concerned State Government shall ensure no mining operations to commence till the entire compensation for illegal mining, if any, is paid by the project proponent through their respective Department of Mining & Geology, in strict compliance of the judgment of Hon'ble Supreme Court.
11. This Environment 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.

Manoj
(Manoj Kumar Gangeya)
28.4.2020
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 Additional Principal Chief Conservator of Forests, Regional office (ECZ), Ministry of Environment & Forests, Bungalow No. A-2, Shyamali Colony, Ranchi - 834002
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, Central Pollution Control Board, CBD-cum-Office Complex, East Arjun Nagar, Delhi - 32
6. The Member Secretary, Jharkhand State Pollution Control Board, TA Building, HEC Complex, PO Dhuwa, Ranchi
7. The District Collector, Bokaro, Government of Jharkhand
8. Monitoring File
9. Guard File
10. Record File.
11. Parivesh

Manoj
(Manoj Kumar Gangeya)
28.4.2020
Director