

GARJANBAHAL OCP, BASUNDHARA AREA, MCL

Half-yearly compliance report for the period of

Oct'2021 to Mar'2022 as per EC for 15.6 MTY EC

Compliance of the generic conditions and environmental safeguards mentioned below

Sl. No.	EC conditions (General, Specific & Others)	EC compliance status by Area/Mine
General Conditions		
i	PP shall obtain CTO for 15.6 MTPA from State Pollution Control Board.	It has been obtained vide consent order no 4216/IND-I-CON-6641 dated 17.03.2022.
ii	PP must comply with all the non-compliances or partially compliances as per the certified compliance report wrt all the EC conditions stipulated in J-11015/159/ 2015.IA.II(M) dated 09.11.2017.	Agreed and duly noted.
iii	Further expansion in capacity will only be considered by EAC when at least 75% of EC conditions are complied fully and PP to obtain 5-star rating from Ministry of Coal as per their guidelines.	Duly noted.
iv	PP shall implement in-pit conveyor system with silo loading facility till railway siding and No road transportation shall be allowed after December, 2022 and accordingly, SPCB shall not grant CTO for road transportation after December, 2022.	Presently Coal is being transported through dedicated Coal corridor of 7 Km towards Sardega Siding out of which 2 Kms of transportation will be done by upcoming Rapid loading System +Conveyor belt System by Mar 2023 as an intermediate arrangement till the commencement of Barpalli Bulb by 2025-26. Permission for Road transportation from mine to RLS /Sardega Siding has been sought for till the commencement of Barpalli Bulb from MoEF&CC and application for amendment in EC in the form of Form-4 has also been submitted in the paribesh portal.
v	PP shall conduct carrying capacity assessment study within 1 year and submit to Ministry's IRO and further recommendation shall be complied with strict timeline.	Carrying capacity assessment study shall be conducted within 1 year and will be submitted to Ministry's IRO.
vi	PP shall engage third party independent expert agency for monitoring/auditing of compliance of EC conditions every year.	Duly noted.
vii	PP shall engage dedicated agency for plantation in mine site by April, 2022 instead of depending on State Forest Department. PP may seek inputs and expertise from forest department.	Duly noted.
viii	PP should not transport coal through road passing through any village and further ensure that its consumers of coal are also not using village road and passing through any sensitive location such as schools, hospitals etc. PP shall	No coal transportation is being undertaken by MCL through villages within its command area. Separate Coal Corridors have been constructed for roads towards Railway Sidings, by-passing all villages. However, Coal consumers who are fetching coal through e-auction / FSA cannot be monitored for its route

	take legal undertaking from its consumers accordingly.	of transportation. The condition has been requested to be waived off and application for amendment in EC in the form of Form-4 has also been submitted in the paribesh portal.
ix	PP shall obtain No Objection Certificate (NOC) for extraction of Ground Water from Central Ground Water Authority for expansion capacity.	The application for CGWA, vide application no.- 21-4/2233/OR/MIN/2019 for drawl of water has been made by the project proponent which is under consideration at the CGWA. The application for CGWA for drawl of water has been made by the project proponent which is under consideration at the CGWB. NOC has been approved in Oct-2021 which is valid upto 21/10/2023.
x	PP shall implement all listed activities which includes Fixed type sprinklers, trolley mounted and mobile fog cannons of 100 mtrs and 40 mts throw, wind barrier at coal stockyard, plantation etc with different timeline till December, 2022 at a cost of Rs. 14. 73 Crores. The numbers of fog cannons shall be increased to 10 (atleast) and commenced within one year of this EC letter.	Proposal for 2 truck mounted mobile fog cannons and 80 sprinklers are under process in e-office. Additional 3 nos of trolley mounted static fog cannons are under proposal.
xi	PP shall implement proposed plantation for next three years as 7.50 Ha (2022-2023), 5 ha (2023-2024), 5 ha (2024-2025) at overall cost of Rs. 7.80 Crores and further plant 150,000 nos. of native trees with broad leaves along the transportation route in three years to prevent the effect of air pollution. After completion of tree plantation, number of trees shall be duly endorsed from District Forest Officer.	The plantation within the project area shall be taken up during the next three years as per the scheduled program and plan. Plantation of 150000 nos. of native trees with broad leaves shall be taken up in consultation with DFO Sundargarh and District Administration along the transportation route and shall be implemented within three years.
xii	PP shall commence Rapid loading system with conveyor belt system by December, 2022 and no road transportation shall be carried out by road towards Sardega siding after December, 2022.	Duly noted. Rapid loading system of 20Mty with conveyor Belt system which is under construction will be completed By March'2023. Presently coal is being transported through dedicated concrete coal corridor of 7km towards Sardega siding out of which about 2km of transportation will be done by upcoming Rapid loading system. Conveyor belt system by March-2023.
xiii	PP shall deploy only 40-50 tonnes covered trucks/dumper to reduce fleet size till Rapid loading system and conveyor belt system is commenced (i.e. till December, 2022).	Duly noted. At present Tippers of gross weight 25T (10% margin allowed i.e 28T) are being deployed for coal transportation in the mines. Deployment of 40-50T trucks may not be possible as higher capacity trucks come in the form trailer trucks and these are unsafe to be used within the mine due to higher gradient and DGMS is not permitting use of tractor-trailer trucks within the mine (face to surface).
xiv	PP shall develop the pond present near the OB dump and develop aquatic life within 2 years and provide access to villagers as recreational place.	At present the surface run-off from OB dump is insufficient to be stored. However, in subsequent times the drained water through garland drain shall be stored as the pond.
xv	PP shall prepare Basundhara River conservation plan with respect to its quality check, beautification, plantation along the boundary and construction of over bridge if required and collaborate with state government in river rejuvenation plan.	Basundhara river conservation plan is under process for supporting the river rejuvenation.
xvi	PP shall conduct substantial numbers of tree plantation in the villages of Kushra, Siarnal, Himgir, Kathapall for dust mitigation measures within 2 years and mark it for certification of Ministry's IRO.	Noted and plantation shall be done based on the availability and suitability of the land in these villages

xvii	PP shall implement Peripheral tree plantation along the mine lease area with miyawaki method of 50 mts width within 2 years through-independent expert	Noted and shall be implemented in due course when tree plantation is carried out at the stable and suitable places.												
xviii	PP shall explore an action plan for implementation of sand segregation plant to extract sand and aggregate (since quantity of OB is higher) to reduce agricultural land degradation.	Duly noted.												
xix	PP also to provide drinking water facilities like installation of RO with proper water supply pipe fittings to nearby rural areas and also to install hand pumps by seeking consent from panchayat of the villages located within the study area of 10 km radius buffer zone within two years	Drinking water is being supplied by water tankers to the nearby 20 peripheral villages. Apart from the above hand pumps and solar pumps are being installed at several locations as per the demand of gram panchayats.												
xx	PP to install solar lights within 1 year from the grant of this EC 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	Lighting along existing coal transportation road is being regularly maintained. Proposal for setting up additional lighting on the special coal corridors at an amount of 147 lakhs is in approval stage.												
xxi	PP to provide sanitation facility like bio toilets to the villages located within the study areas within 1 year from the grant of this EC	Duly noted.												
xxii	PP to install 1 more continuous ambient air quality monitoring stations at suitable locations preferably village side and with consultation of SPCB. The real time data so generated shall be uploaded on company website. In addition, data should also be displayed digitally at entry and exit gate of mine lease area for public display.	At present 3 CAAQMS stations are present for Basundhara Area. One more CAAQMS is planned to be installed within the coalfield at the location specified by SPCB.												
xxiii	PP shall construct new multispecialty (100 beds) hospital in the 10 km of the project area within 2 years for local people out of approved budget.	Recently constructed Basundhara Hospital in the colony township of Basundhara Area, MCL is of 50 bedded capacity. This hospital caters to the need of nearby villagers. It is planned to expand its capacity to 100 beds in due course of time.												
xxiv	Continuous monitoring of occupational safety and other health hazards, and the corrective actions need to be ensured.	It is being monitored.												
xxv	Project proponent shall supply clean drinking water and for domestic purpose for the people coming under the zone of influence of this mining activity.	Drinking water is being provided through 08 water purifiers installed within and outside the project area for the local people. Clean Drinking water from WTP Basundhara, is also being supplied by means of water tankers to the nearby 20 peripheral villages.												
xxvi	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	20% of the workers identified from workforce engaged in active mining operation are subjected to health check-up for occupational disease and hearing impairment, if any, through a specialized agency/institution within the District/State and the results reported to this Ministry and DGMS and the reports will be conveyed to the regional Office with the next half yearly compliance report. PME is done in this regard. IME/PME for calendar year 2021 is as under: <table border="1" data-bbox="787 1785 1469 1911"> <thead> <tr> <th></th> <th>Departmental</th> <th>Contractual</th> </tr> </thead> <tbody> <tr> <td>No of employees</td> <td>609</td> <td>737</td> </tr> <tr> <td>No persons required to undergo IME</td> <td>0</td> <td>263</td> </tr> <tr> <td>No of persons required</td> <td>145</td> <td>0</td> </tr> </tbody> </table>		Departmental	Contractual	No of employees	609	737	No persons required to undergo IME	0	263	No of persons required	145	0
	Departmental	Contractual												
No of employees	609	737												
No persons required to undergo IME	0	263												
No of persons required	145	0												

	for bums, malaria and provision of anti-snake venom including all other paramedical safeguards may be ensured before initiating the mining activities.	<table border="1"> <tr> <td>to undergo PME</td> <td></td> <td></td> </tr> <tr> <td>No of persons undergone PME</td> <td>145</td> <td>0</td> </tr> <tr> <td>No of persons declared medically unfit</td> <td>0</td> <td>0</td> </tr> <tr> <td>No of cases of occupational diseases detected</td> <td>0</td> <td>0</td> </tr> </table> <p>No occupational diseases are detected till date however, care is taken for the health of all the employees.</p>	to undergo PME			No of persons undergone PME	145	0	No of persons declared medically unfit	0	0	No of cases of occupational diseases detected	0	0
to undergo PME														
No of persons undergone PME	145	0												
No of persons declared medically unfit	0	0												
No of cases of occupational diseases detected	0	0												
xxvii	Persons of nearby villages shall be given training on livelihood and skill development to make them employable.	Training and skill development programs are conducted for the people of nearby villages from time to time.												
xxviii	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 noiselevels well within the prescribed limits for day light/night hours	It is ensured that illumination and sound at night are well within permissible limits so that it does not adversely affect the nearby living beings including humans and animals.												
xxix	PP shall implement rain water harvesting mechanism in order recharge the ground water or as water conservation measure in addition to the proposed structure. PP shall carry out regular monitoring of Ground water level and quality.	Mine sump serves as a rainwater harvesting structure. A rain water harvesting structure is present at the Project Office but without the consultation of CGWA. The rain water harvesting will be implemented for conservation of augmentation of ground water resources in the area in consultation with Central Ground Water Board in due course of time.												
xxx	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.	Duly noted.												
xxxi	Hon'ble Supreme Court in aWrit Petition(s) Civil No. 114/2014, Common Cause vs Union ofIndia & Ors vide its judgement dated 8th January, 2020 has directed the Union ofIndia 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 Regional Office of the MoEF&CC.	Duly noted and it shall be followed with strict adherence.												
(a) Statutory														
(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.	Stage-II forest clearance for 88.89 Ha is obtained vide F. no- 8-11/2015-FC dated 6 th March 2018.												
(ii)	The project proponent shall obtain clearance	This condition will not be applicable as there is no endangered												

	from the National Board for Wildlife, if applicable.	species in the nearby area.
(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 scheduler species in the study area).	Site Specific Wildlife Management Plan is prepared by the office of DFO, Sundargarh.
(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.	Consent to Establish (CTE) is obtained vide order no 3432/IND-II-CTE-6651/2022 dated 05.03.2022 and Consent to Operate is obtained vide order no 4216/IND-I-CON-6641 dated 17.03.2022.
(v)	The project proponent shall obtain the necessary permission from the Central Ground Water Authority.	The application for CGWA, vide application no.- 21-4/2233/OR/MIN/2019 for drawl of water has been made by the project proponent which is under consideration at the CGWA. The application for CGWA for drawl of water has been made by the project proponent which is under consideration at the CGWB. NOC has been approved in Oct-2021 which is valid upto 21/10/2023.
(vi)	Solid/hazardous waste generated in the mines needs to addressed in accordance to the Solid Waste Management Rules, 2016/Hazardous & Other Waste Management Rules, 2016.	Under compliance as per rules.
(b) Air quality monitoring and preservation		
(i)	Continuous ambient air quality monitoring stations as prescribed in the statue be established in the core zone as well as in the buffer zone for monitoring of pollutants, namely PM10, PM2.s, SO2 and NOx. 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.	Ambient air quality monitoring stations have been established in the core zone as well as in the buffer zone for monitoring of pollutants, namely PM ₁₀ , PM _{2.5} , SO ₂ and NO _x . locations of the stations have been decided based on the metrological data, topographical features and environmentally and ecologically sensitive targets and in consultation with the State Pollution Control Board. Monitoring of heavy metals such as Hg, As, Cd, Ni, Cr, etc will be carried out at as well, once in six months. Monitoring Report is attached herewith.
(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.	Ambient air quality monitoring stations have been established in the core zone as well as in the buffer zone for monitoring of pollutants, namely PM ₁₀ , PM _{2.5} , SO ₂ and NO _x . locations of the stations have been decided based on the metrological data, topographical features and environmentally and ecologically sensitive targets and in consultation with the State Pollution Control Board. Monitoring of heavy metals such as Hg, As, Cd, Ni, Cr, etc will be carried out at as well, once in six months. Monitoring Report is attached herewith.
(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	Transportation of coal is carried out by fully covered trucks. It is being ensured that the trucks are fully covered with tarpaulin. 4 nos of 28 kl do the work of dust suppression of CT roads and haul roads. Three Fog cannon systems have been provided to

	etc shall be carried out in critical areas prone to air pollution (with higher values of PM10/PM2.5) 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.	coal stock to mitigate the pollution at dust generating source. Besides of these a mobile fog cannon has been used to arrest the fugitive dust of CT roads.
(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.	Transportation of coal is carried as per the mining plan. Transportation through the villages is avoided to the maximum possible extent. Proposed bypass road shall be constructed taking care of the safe passage of vehicles with minimal pollution and chances of accidents with suitable dust control measures.
(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.	The vehicles are allowed to run after the submission of PUC certificates, the records of which are duly maintained.
(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.	CHP does not exist. Drills are wet operated.
(vii)	Coal handling plant shall be operated with effective control measures w.r.t. various environmental parameters. Environment friendly sustainable technology should be implemented for mitigating such parameters.	Coal Handling Plant does not exist.
(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.	Effluent discharge of the mine is being monitored and ensured that no harm is caused by it.
(ii)	The monitoring data shall be uploaded on the company's website and displayed at the project site at a suitable location. The circular No.J-20012/1/2006-IA.11 (M) dated 27th May, 2009 issued by Ministry of Environment, Forest and Climate Change shall also be referred in this regard for its compliance.	The monitoring data of environmental quality parameter (air, water and noise) are displayed at the entrance of the Project Office and the company's website https://www.mahanadicoal.in/Environment/eenvironment_t.php
(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,	Ground water monitoring is being done regularly by the CMPDIL at required interval. The ground water level is being measured at one dug wells at the required frequency. The qualities of these well waters are also monitored frequently.

	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.	Monitoring of upstream and downstream of Basundhara river is being done in six months periodicity.
(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.	Mine sump serves as a rainwater harvesting structure. A rain water harvesting structure is present at the Project Office but without the consultation of CGWA. The rain water harvesting will be implemented for conservation of augmentation of ground water resources in the area in consultation with Central Ground Water Board in due course of time.
(vi)	Catch and/or garland drains and siltation ponds in adequate numbers and appropriate size shall be constructed around the mine working, coal heaps & OB dumps to prevent run off of water and flow of sediments directly into the river and water bodies. Further, dump material shall be properly consolidated/ compacted and accumulation of water over dumps shall be avoided by providing adequate channels for flow of silt into the drains. The drains/ ponds so constructed shall be regularly de-silted particularly before onset of monsoon and maintained properly. Sump capacity should provide adequate retention period to allow proper settling of silt material. The water so collected in the sump shall be utilised for dust suppression and green belt development and other industrial use. Dimension of the retaining wall constructed, if any, at the toe of the OB dumps within the mine to check run-off and siltation should be based on the rainfall data. The plantation of native species to be made between toe of the dump and adjacent field/habitation/water bodies.	Catch drains and garland drain has been provided around the mine, OB dumps to prevent run-off. Since the mine is new, the overburden dumps are active and hence the retaining wall could not be constructed. Native species of plants shall be planted in due course of time.
(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).	Measures for groundwater recharge shall be undertaken. As the natural groundwater level in and around the mine area is very low, the drinking water to nearby villages is supplied by water tankers in the nearby villages.
(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.	CHP does not exist. An integrated workshop will be constructed shortly which has the provision of ETP as well. Work has been awarded for the construction of integrated HEMM workshop vide no- MCL/Samb/Civil/e-Tender/AOC/22-23/18 dated 07/04/2022. Existing ETP of Kulda OCP is being used for the collective discharge as of now.
(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 <i>etc.</i> The drains shall	The pumped out water of the mine is sent to the mine sump after allowing it to desilt via series of drains. The mine water is utilized for industrial purposes. The drains are cleaned and desilted regularly in pre-monsoon and post-monsoon periods.

	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/Gol 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.	Duly noted.
(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.	Duly noted.
(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.	Adequate measures are being taken to control the noise pollution.10 pair of ear muffs has also been distributed during this period.
(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.	Controlled blasting techniques have been adopted to control ground vibration and fly rocks.
(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.	Noise monitoring is being done on fortnightly basis at the sensitive points in the mine and there is no significant rise in noise level till date. Noise level survey shall be conducted in the mine premises to assess the impact of noise on the workmen in the mine.
(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.	It shall be followed with due diligence.
(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	Mining is done as per approved Mining Plan.

	General Mines Safety (DGMS).	
(iii)	No mining shall be carried out in forest land without obtaining Forestry Clearance as per Forest (Conservation) Act, 1980.	Duly noted.
(iv)	Efforts should be made to reduce energy and fuel consumption by conservation, efficiency improvements and use of renewable energy.	Duly noted.
(f) Land reclamation		
(i)	Digital Survey of entire lease hold area/core zone using Satellite Remote Sensing survey shall be carried out at least once in three years for monitoring land use pattern and report in 1 :50,000 scale or as notified by Ministry of Environment, Forest and Climate Change (MOEFCC) from time to time shall be submitted to MOEFCC/Regional Office (RO).	Digital Survey of entire lease hold area/core zone using Satellite Remote Sensing survey has been carried out and the reports are available at the company website https://www.mahanadicoal.in/Environment/eeenvironment.php
(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.	The mine has not reached its final void area. The upcoming reclamation works in future shall be carried out as per the approved mining plan and mine closure plan.
(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.	All the activities of excavated area, OB dumping, backfilling and future afforestation plan shall be carried out as per Mining Plan and EIA/EMP.
(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.	No fly ash is dumped in the mine as there is no void area in the active mines. There is no generation of fly ash and flue gas inside the mine.
(v)	Further, it may be ensured that as per the	Top soil stacking shall be done at earmarked as per the mine closure plan. Dumps on reaching their final RL shall be grassed

	<p>time schedule specified in mine closure plan it should remain live till the point of utilization. The topsoil shall temporarily be stored at earmarked site(s) only and shall not be kept unutilized. The top soil shall be used for land reclamation and plantation purposes. Active OB dumps shall be stabilised with native grass species to prevent erosion and surface run off. The other overburden dumps shall be vegetated with native flora species. The excavated area shall be backfilled and afforested in line with the approved Mine Closure Plan. Monitoring and management of rehabilitated areas shall continue until the vegetation becomes self-sustaining. Compliance status shall be submitted to the Ministry of Environment, Forest and Climate Change/ Regional Office.</p>	and planted with native species to reduce erosion and surface run-off.																
(vi)	<p>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.</p>	Duly noted. It shall be implemented when the grazing land area is utilized inside the mining activity.																
(g) Green Belt																		
(i)	<p>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.</p>	Duly noted.																
(ii)	<p>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.</p>	<p>5862 nos. of plants have been planted over an area of 19.52 ha along the southern boundary of the mine. 100 plants are planted in Project Office & 170 plants are planted in and around Site Office of different species till date. Scheme for plantation of 12070 plants in Safety Zone for a total financial outlay of Rs. 9822212.00 has been approved for 2021-22 and the work is being carried out by DFO, Sundargarh, Odisha. Further, a greenbelt will be developed all along the mine lease area in a phased manner and the details regarding the same will be conveyed to the MoEF and its regional office from time to time. Phase wise development of green belt along with the implementation schedule for the next three years.</p> <table border="1"> <thead> <tr> <th>Year</th> <th>Area / RKM</th> <th>Plantation</th> <th>Type & Location</th> </tr> </thead> <tbody> <tr> <td>2022-23</td> <td>05 Ha</td> <td>12500</td> <td>Block – Safety Zone</td> </tr> <tr> <td></td> <td>03 Ha</td> <td>7500</td> <td>Bench & Slope – External OB Dump</td> </tr> <tr> <td></td> <td>01 Kms</td> <td>500</td> <td>Avenue – CT Road</td> </tr> </tbody> </table>	Year	Area / RKM	Plantation	Type & Location	2022-23	05 Ha	12500	Block – Safety Zone		03 Ha	7500	Bench & Slope – External OB Dump		01 Kms	500	Avenue – CT Road
Year	Area / RKM	Plantation	Type & Location															
2022-23	05 Ha	12500	Block – Safety Zone															
	03 Ha	7500	Bench & Slope – External OB Dump															
	01 Kms	500	Avenue – CT Road															

		2023-24	05 Ha	12500	Block – Safety Zone
			03 Ha	7500	Bench & Slope – External OB Dump
			01 Km	500	Avenue – CT Road
		2024-25	05 Ha	12500	Block – Safety Zone
			02 Ha	5000	Bench & Slope – External OB Dump
			01 Km	500	Avenue

(h) Public hearing and Human health issues

(i)	Adequate illumination shall be ensured in all mine locations (as per DGMS standards) and monitored weekly. The report on the same shall be submitted to this ministry & it's RO on six-monthly basis.	Adequate illumination is ensure and being monitored continuously.																					
(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.	<p>20% of the workers identified from workforce engaged in active mining operation are subjected to health check-up for occupational disease and hearing impairment, if any, through a specialized agency/institution within the District/State and the results reported to this Ministry and DGMS and the reports will be conveyed to the regional Office with the next half yearly compliance report.</p> <p>PME is done in this regard.</p> <p>IME/PME for calendar year 2021 is as under:</p> <table border="1"> <thead> <tr> <th></th> <th>Departmental</th> <th>Contractual</th> </tr> </thead> <tbody> <tr> <td>No of employees</td> <td>609</td> <td>737</td> </tr> <tr> <td>No persons required to undergo IME</td> <td>0</td> <td>263</td> </tr> <tr> <td>No of persons required to undergo PME</td> <td>145</td> <td>0</td> </tr> <tr> <td>No of persons undergone PME</td> <td>145</td> <td>0</td> </tr> <tr> <td>No of persons declared medically unfit</td> <td>0</td> <td>0</td> </tr> <tr> <td>No of cases of occupational diseases detected</td> <td>0</td> <td>0</td> </tr> </tbody> </table>		Departmental	Contractual	No of employees	609	737	No persons required to undergo IME	0	263	No of persons required to undergo PME	145	0	No of persons undergone PME	145	0	No of persons declared medically unfit	0	0	No of cases of occupational diseases detected	0	0
	Departmental	Contractual																					
No of employees	609	737																					
No persons required to undergo IME	0	263																					
No of persons required to undergo PME	145	0																					
No of persons undergone PME	145	0																					
No of persons declared medically unfit	0	0																					
No of cases of occupational diseases detected	0	0																					
(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.	All working personnel working in core zone wear protective respiratory devices and are being imparted regular training and information by regular safety talks and sensitization programs.																					
(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.	<p>The details of the response from the project proponent to the issues raised during the public hearing are as follows:</p> <table border="1"> <thead> <tr> <th>Sl. No.</th> <th>Issued raised by the Public</th> <th>Action to be taken by MCL</th> </tr> </thead> <tbody> <tr> <td>1.</td> <td>Pollution due to coal dust (Air pollution)</td> <td> <p>1. Transportation of coal is carried out by fully covered trucks. It is being ensured that the trucks are fully covered with tarpaulin.</p> <p>2. 4 nos. of 28 kl does the work of dust suppression of CT roads and haul roads.</p> </td> </tr> </tbody> </table>	Sl. No.	Issued raised by the Public	Action to be taken by MCL	1.	Pollution due to coal dust (Air pollution)	<p>1. Transportation of coal is carried out by fully covered trucks. It is being ensured that the trucks are fully covered with tarpaulin.</p> <p>2. 4 nos. of 28 kl does the work of dust suppression of CT roads and haul roads.</p>															
Sl. No.	Issued raised by the Public	Action to be taken by MCL																					
1.	Pollution due to coal dust (Air pollution)	<p>1. Transportation of coal is carried out by fully covered trucks. It is being ensured that the trucks are fully covered with tarpaulin.</p> <p>2. 4 nos. of 28 kl does the work of dust suppression of CT roads and haul roads.</p>																					

		<p>3. Three Fog cannon system has been provided to coal stock to mitigate the pollution at dust generating source.</p> <p>4. Besides of these, a 12KL mobile fog cannon, has been used to arrest the fugitive dust of CT roads.</p>
2.	Production of Coal	Production is being carried out with the help of surface miner and drilling and blasting operation has been minimized
3.	Plantation	<p>5862 nos. of plants were planted in 19.52 ha in the area within 100 meters from outer perimeter of the mining lease.</p> <p>100 plants are planted in Project Office.</p> <p>130 plants have been planted in Site Office.</p> <p>Plantation in Safety Zone has been approved for 2021-22 and it is being carried out by DFO, Sundargarh, Odisha.</p>
4.	Drinking water supply	<p>The authority has already completed bore-well inside school premises.</p> <p>Drinking water supply is being done for peripheral villages during summer (90 days) through water tankers. Apart from that work of drinking water supply to Barpali, Kushra etc is being taken up with the district administration on the deposit basis under CSR.</p>

(v)	<p>The project proponent shall follow the mitigation measures provided in this Ministry's OMNo.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'.</p>	<p>The mitigation measures shall be followed accordingly. The displaced villagers are being rehabilitated as per the R&R Policy.</p> <p>Land acquired under CBA (A&D) Act 1957. Claim Commission has been setup for compensation, R&R, employment etc by Supreme Court which is as given below:</p> <p>Employment Status:</p> <table border="1"> <thead> <tr> <th>Name of village</th> <th>PAFs</th> <th>Eligible</th> <th>Emp</th> <th>CC</th> <th>Annuity</th> <th>Balance Under process</th> </tr> </thead> <tbody> <tr> <td>Garjanbahal</td> <td>350</td> <td>234</td> <td>139</td> <td>33</td> <td>15</td> <td>47</td> </tr> <tr> <td>Karlikachhar</td> <td>153</td> <td>112</td> <td>74</td> <td>12</td> <td>1</td> <td>25</td> </tr> <tr> <td>Bangurkela</td> <td>226</td> <td>140</td> <td>34</td> <td>0</td> <td>0</td> <td>106</td> </tr> <tr> <td>Total</td> <td>729</td> <td>486</td> <td>247</td> <td>45</td> <td>16</td> <td>178</td> </tr> </tbody> </table> <p>Compensation payment:</p> <ol style="list-style-type: none"> Balinga- Out of Rs.14.21Cr an amount of Rs.14.06Cr has been paid and balance amount of Rs.0.15 Crs deposited in Tribunal. Garjanbahal- Out of Rs.135.05Cr, payment of Rs.129.93Cr (96.21%) has been made. Karlikachhar- Out of Rs.77.81Cr, payment of Rs.77.63Cr (99.77%) has been made. Bangurkela –Out of Rs.164.01Cr, payment of Rs.139.93Cr (85.32%) has been made. 	Name of village	PAFs	Eligible	Emp	CC	Annuity	Balance Under process	Garjanbahal	350	234	139	33	15	47	Karlikachhar	153	112	74	12	1	25	Bangurkela	226	140	34	0	0	106	Total	729	486	247	45	16	178
Name of village	PAFs	Eligible	Emp	CC	Annuity	Balance Under process																															
Garjanbahal	350	234	139	33	15	47																															
Karlikachhar	153	112	74	12	1	25																															
Bangurkela	226	140	34	0	0	106																															
Total	729	486	247	45	16	178																															

(i) Corporate Environment Responsibility		
(i)	<p>The company shall have a well laid down environmental policy duly approved 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/stakeholders.</p>	<p>The company has a laid down policy known as the Corporate Environment Policy 2018 which is available in the websites: https://www.coalindia.in/departments/environment/policy-env/ and https://www.mahanadicoal.in/Environment/eenvironment.php under the environment drop down menu.</p>
(ii)	<p>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.</p>	<p>Details of environmental cell at area /project level is as follows :-</p> <p>Area level:</p> <ol style="list-style-type: none"> 1. General Manager 2. Staff Officer (Civil) 3. Area Nodal Officer (Envt./ Forest) 4. Area Survey Officer 5. Staff Officer (E&M) <p>Project level:</p> <ol style="list-style-type: none"> 1. Project Officer 2. Project Civil Engineer 3. Environment Officer 4. Survey Officer. 5. Project Engineer (E&M). <p>It is also displayed in the MCL company's website https://www.mahanadicoal.in/Environment/eenvironment.php</p>
(iii)	<p>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.</p>	<p>Duly noted for compliance.</p>
(iv)	<p>Self environmental audit shall be conducted annually. Every three years third party environmental audit shall be carried out.</p>	<p>Duly noted.</p>
(j) Miscellaneous		
(i)	<p>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.</p>	<p>The EC of 15.6 MTY of Garjanbahal OCP is displayed in two Odia newspapers namely Rourkela edition of Samaja and Sambalpur edition of Samaja on 16.03.2022. It is also displayed on English newspaper named The New Indian Express dated 16.03.2022. An electronic copy of the EC letter has been marked to the concerned State Pollution Control Board, Regional Office, District Industry Sector and Collector's Office/Tehsildar Office.</p>
(ii)	<p>The copies of the environmental clearance shall be submitted by the project proponents to</p>	<p>An electronic copy of the EC letter has been marked to the concerned State Pollution Control Board, Regional Office,</p>

	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.	District Industry Sector and Collector's Office/Tehsildar Office.
(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.	Duly noted. The compliance and the monitoring data are displayed on the company's website.
(iv)	The project proponent shall monitor the criteria pollutants level namely; PM10, SO2, NOx (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.	Monitoring is done by Routine Environment Monitoring Stations installed at various points in the mine.
(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.	Duly noted for submission.
(vi)	The project proponent shall follow the mitigation measures provided in this Ministry's OM No.Z-11013/5712014-IA.11 (M) dated 29 th 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'.	Duly noted.
(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.	Duly noted.
(viii)	The project authorities shall inform to the Regional Office of the MOEFCC regarding commencement of mining operations.	Noted.
(ix)	The project authorities must strictly adhere to the stipulations made by the State Pollution Control Board and the State Government.	Duly noted.
(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.	Duly noted
(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.	Duly noted.
(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.	Duly noted.
(xiii)	The Ministry may revoke or suspend the	Duly noted.

	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.	Noted
(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.	Full cooperation shall be extended in this regard.
(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 made there under 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.	Duly noted.


13/5/2022

Project Officer
Garjanbahal OCP,
Basundhara Area