

E M P SIX MONTHS COMPLIANCE REPORT

AS ON 01.04.2023

MAHAKALI COLLIERY UNDER GROUND COAL MINE



WESTERN COALFIELDS LIMITED

CHANDRAPUR AREA

PART-IV

Project : MAHAKALI COLLIERY
Environmental Clearance : FOR COAL PRODUCTION CAPACITY OF 0.40 M Te/Yr
Ref : No. J-11015/113/2006 .IA.II dt; 2.08.2006

COMPLIANCE REPORT AGAINST ENVIRONMENTAL CLEARANCE

Sl	A. Specific conditions	Compliance Status
I	All the conditions stipulated by SPCB in their NOC shall be effectively implemented.	Conditions stipulated in the CTO are effectively implemented and compliance to those is regularly submitted. Mine operations have been discontinued since September 2021.
II	Approval for project renewal shall be obtained before expansion in production.	Mining plan has been approved in respect of Mahakali Colliery by MOC. Govt. of India vide letter No. 13016 / 18 / 2000 – CA - II Dtd. 18/10/2006. (Enclosed as Annexure-A)
III	Mining shall not be carried in forest land for which forestry clearance has not been obtained under the provisions of FC Act, 1980.	<p>This underground mine is a taken over mine since nationalization of coal mines and is an operating mine under control of WCL since 1/11/1975. The lease area of 404.98 Ha. was inherited by WCL for 30 years i.e. upto 31.10.2005 by virtue of nationalization which includes 193.19 ha of forest land before enactment of FC Act, 1980. The application for renewal of lease has been submitted to Ministry of coal, GOI on 29/10/2005. The application under Form-J has also been made to District Mining Officer, Chandrapur on 13/03/2002. Hence the approval for Renewal of Mining Lease has been granted vide Order No. MMN-1008/C.R.2676/IND-9 Dated 7th Sept.2010 (Copy enclosed as Annexure- B).</p> <p>The application for renewal of forest land clearance under FC Act, 1980 has also been made vide our letter dated 22.07.2004 against which Stage I clearance has been granted vide letter No. F.No.8-34/2007-FC from MOEF & CC dated 22.06.2018(Copy Enclosed as Annexure-C). Compliance of conditions under stage I clearance has also been submitted vide Letter No. WCL / CHA / AGM / PLG / REV / 718 Dated 21/30.05.2019. A copy of compliance submitted is enclosed as Annexure-C I. Stage –II clearance is awaited.</p>
V	While extracting panels in the lower seam, all water bodies in the subsidence area shall be drained. Dewatering of the old goafs of the upper seam shall be continued as long as the lower seam is worked to prevent accumulation of large water bodies over working area.	There is no overlying seam exist at MKC. There is only one composite seam of average thickness 17.5m,as such this situation is not applicable in this particular mine. Method of working adopted in this mine is Bord and pillar, in which depillaring is being done in conjunction with hydraulic sand stowing. The voids created after extraction of coal are filled with sand stowing process, resulting there is no surface subsidence has so far been observed over working area. Hence there is no chance of accumulation of water bodies over working area due to extraction of coal.
VI	Sufficient coal pillars shall be left unextracted around the air shaft (within the subsidence influence area) to protect from any damage from subsidence, if any.	At present, there are 2Nos. of air shafts are provided in this mine, one is for intake fresh air (Dia 4.8 Mts. Depth 21.02 m) and another one is for return air (Dia 3.65 Mts. Depth 19.81m). The Sufficient coal pillar of more than 15m thickness has been left unextracted around the air shafts as per statute. Moreover, entire extraction is carried out by hydraulic sand stowing. As such, there is no danger to air shaft from subsidence.
VII	Solid barriers shall be left below the roads falling within the blocks to avoid any damage to the roads.	The lease hold boundary of a mine is being crossed by Ballarpur bypass road. The minimum depth of cover below this road is about 115 m. No extraction of pillar is being carried out within and beneath 45m of Public Road as per Reg. 119 of Coal mine regulation 2017. Moreover, entire extraction is carried out in conjunction with hydraulic sand stowing. Hence no risk of damage to the road due to subsidence.

VIII	No depillaring operation shall be carried out below the roads and village area found within the lease.	<p>No extraction of pillar is being carried out within and beneath 45m of Public Road and village area as per Reg. 119 of Coal mine regulation 2017. However, Depillaring operation is being carried out with Hydraulic sand stowingby taking prior permission from DGMS under reg. 112 and Reg. 119 of Coal mine regulation 2017. Hence due to sand stowing no adverse impact on surface or damage to any road or village area has been observed. Year wise quantity of Sand stowing in last five years is as given below.</p> <table><tr><th>Year</th><th>Sand Stowing (m³)</th></tr><tr><td>2019-20</td><td>18945.09</td></tr><tr><td>2020-21</td><td>29722.76</td></tr><tr><td>2021-22</td><td>12706.01</td></tr><tr><td>2022-23</td><td>5214.52</td></tr></table>	Year	Sand Stowing (m ³)	2019-20	18945.09	2020-21	29722.76	2021-22	12706.01	2022-23	5214.52
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IX	Regular monitoring of subsidence movement on the surface over and around the working area and impact on natural drainage pattern, water bodies, vegetation, structure, roads and surrounds should be continued till movement ceases completely. In case of observation of any high rate of subsidence movement, appropriate effective corrective measures should be taken to avoid loss of life and material. Cracks should be effectively plugged with ballast and clayey soil/suitable material.	As production of MKC has been suspended from 30.09.2021. No extraction of coal is being carried out till date. However, regular monitoring of subsidence movement on surface is being done as per CMR 2017.										
X	Garland drains (size, gradient and length) around the safety areas such as mine shaft and low lying areas and sump capacity should be designed keeping 50% safety margin over and above the peak sudden rainfall and maximum discharge in the area adjoining the mine sites. Sump capacity should also provide for adequate retention period to allow proper settling of silt material.	<p>Garland drains are provided in case of opencast mine. As this is an operating underground mine, the precautions being taken to prevent the risk of inundation due to surface water as well as underground water are covered under the provision of Reg. 149&150 of Coal Mines Regulations-2017 and the relevant circulars issued by DGMS time to time . The mine openings are also at an elevation of more than 3.00 m from H.F.L (178.960 m).Hence there is no danger of inundation due to surface water</p> <p>Elevation of Mine openings:</p> <ul style="list-style-type: none">• 182.316 m (No.1 Incline)• 184.305 m (No.2 Incline)• 182.725 m (air shaft old)• 184.361 m (air shaft new) <p>In underground, there is a main sump having capacity of 4.0 Million Gallon which is sufficient for providing adequate retention period to allow proper settling of silt material.</p>										
XI	Crushers at the CHP should be operated with high efficiency bag filters and water sprinkling system should be provided to check fugitive emissions from crushing operations, conveyor system, haulage roads, transfer points etc.	CHP not in Operation.										
XII	Drills should be wet operated only.	As indicated earlier, As production of MKC has been suspended from 30.09.2021, no drilling operation is being carried out till date.										
XIII	Controlled blasting should be practiced with the use of delay detonators .	As indicated earlier, As production of MKC has been suspended from 30.09.2021. no blasting operation is being carried out till date.										

XIV	A time-bound action plan for afforestation shall be prepared for implementation for area along ML boundary, along roads, vacant land and area in township by planting native species in consultation with the local DFO/Agriculture Department. The density of the trees should be around 2500 plants per hectare.	Being an underground mine there are very limited surface rights. Plantation is being done in and around dispensary, colony, road and other infrastructure. Total of 6030 Nos. of Plants have been planted which includes Ashoka, Neem, Mango, Cassia, Peepal etc. The plantation has been carried out through State Level Expert Forest Agencies.
XV	The company shall obtain approval of CGWA/CGWB Regional Office for use of ground water if any, for mining operations.	NOC from CGWA has been obtained vide CGWA/NOC/MIN/ORIG/2022/14561 dtd. 15.02.2022 valid upto 14.02.2024 Annex. D
XVI	The company shall identify sites for construction of water harvesting structures for augmentation of ground water resource in consultation with the Panchayats of the village(s) in the affected areas and shall complete their construction within an agreed time frame.	<p>Maximum mine discharge water is re-circulated into the mine itself for sand stowing purpose. The ground water level of all the wells is being regularly monitored and the water level is more or less static. Only an insignificant variation is observed during summer.</p> <p>From the above it can be inferred that there is no impact on ground water level at present due to the working of the mine under consideration. As such there are no affected areas in the vicinity, construction of water harvesting structures is not required at present.</p> <p>Still as a precautionary measure, presently a roof top rain water harvesting system is installed at Sub Area Office building and GM Office building.</p> <ol style="list-style-type: none"> 1. Sub Area Office : Roof top Area – 441 m² No. of recharge Pits – 2 Nos. 2. GM office : Roof Top Area – 1950 m² No. of recharge pits – 7 Nos.
XVII	Regular monitoring of ground water level and quality should be carried out by establishing a network of existing wells and construction of new peizometers. The monitoring for quantity should be done four times a year in pre-monsoon (May), monsoon (August), post-monsoon (November) and winter (January) seasons and for quality in May. Data thus collected should be submitted to the Ministry of Environment & Forests and to the Central Pollution Control Board quarterly within one month of monitoring.	Regular Monitoring of Ground water level and quality is being done by Anacon laboratories for WCL. Report being submitted regularly. Last report submitted for the period NOV-DEC 2021(POST-MONSOON) & JAN-FEB 2022 (WINTER) (Copy enclosed as Annexure- E)
XVIII	The project authorities should meet, water requirement of nearby village(s) in case the village wells go dry due to dewatering of mine.	<p>As per Report on Monitoring of Ground Water level and Quality Analysis for the Period Dec 2019 –JULY 2021there is no decline in water table observed. However, for meeting the needs of growing population, the project authority has taken adequate steps for supply of water to the neighboring community as detailed below :-</p> <p>The underground mine water is pumped to surface at water treatment plant which has two interconnected sedimentation tanks of capacity 75000 Gallons for primary settling and then water being treated with pressure filter of 1MLD capacity then treated water is supplied to surrounding areas. However the company has also installed 1 No. of RO plant of capacity 1000 Litre / Hour for providing drinking facility to nearby residents.</p>
XIX	Sewage treatment plant should be installed in the existing colony. ETP	Mine is operational since 1922. Colony is very old. No Space is available for construction of STP on the Surface. However, the sewage treatment in the

	should also be provided for workshop and CHP wastewater.	residential colony is carried out by already provided conventional soak pit followed by septic tank arrangement in each residential unit. There is only a pit workshop and no HEMM is there in this UG mine, as such there is no generation of effluent from workshop and hence no WETP is required. There is no CHP provided.												
XX	Besides carrying out regular periodical health check up of their workers, 10% of the workers identified from workforce engaged in active mining operations shall be subjected to health check up for occupational diseases and hearing impairment, if any, through an agency such as NIOH, Ahmedabad within a period of one year and the results reported to this Ministry and to DGMS.	<p>WCL is having occupational health committee at the corporate (HQ) level as well as at the unit (Area/Project level).</p> <p>At corporate level, the committee consists of the following :</p> <ul style="list-style-type: none">• Chief General Manager (Safety)• Chief of Medical Services• Periodical Medical Examination (PME) Incharge of HQ. <p>The committee scrutinizes the report of the area every quarter.</p> <p>At Unit level, the committee consists of the following –</p> <ul style="list-style-type: none">• General Manager (Operations)• Area Medical Officer• Area Safety Officer• Periodical Medical examination (PME) Incharge of Area. <p>Year-wise details of PME in respect of Mahakali Colliery is as follows:</p> <table><tr><td>Year</td><td>Achieved</td></tr><tr><td>2019</td><td>191</td></tr><tr><td>2020</td><td>242</td></tr><tr><td>2021</td><td>125</td></tr><tr><td>2022</td><td>30</td></tr><tr><td>2023(Till march 2023)</td><td>104</td></tr></table> <p>Till date, no such incidence of occupational disease and hearing impairment has been recorded among the workers of this mine.</p>	Year	Achieved	2019	191	2020	242	2021	125	2022	30	2023(Till march 2023)	104
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XXI	Digital processing of the entire lease area using remote sensing technique should be done regularly once in 3 years for monitoring land use pattern and report submitted to MOEF and its regional office at Bhopal.	<p>This is an operational underground mine and activities are carried out below the ground hence Digital processing of working area is not possible.</p> <p>There are very limited surface rights for the mine.</p> <p>However, the vegetation cover mapping is done for Wardha valley coalfields as a whole by CMPDIL and excerpts for Mahakali showing land use pattern are enclosed as Annexure-F</p>												
XXIII	A final Mine Closure Plan along with details of Corpus Fund should be submitted to the Ministry of Environment & Forests of final mine closure for approval.	<p>As per EC obtained in 2006 life of mine is 20 years. In respect of Mine closure plan, Escrow A/C (No.8973161002690) has been opened in year 2013 for Mahakali Colliery. Renewed A/c No. 897107600002248</p> <p>Total corpus in Escrow A/c is Rs 6,43,60,637/- (as on 31.03.2023). As per balanced extractable reserve i.e 5.942 MT. Total life of mine is 25 years. Final closure plan shall be submitted to MOEF 5 years before actual closure.</p>												
XXIV	Consent to operate shall be obtained before expanding mining operations..	Existing Consent No. Format1.0/APAE Section/UAN No. 0000149308 /CR/2303001249 Valid upto 31.03.2025 (Copy enclosed as Annexure-G)												

Sl	B. General conditions	Compliance
i)	No .Change in mining technology and scope of working should be made without prior approval of the Ministry of Environment and Forests.	No change in Mining Technology & scope of working has been made nor envisaged in future. Extraction of coal is being done by Bord and Pillar method and depillaring operation is being done in conjunction with Hydraulic sand stowing. In case, any different method of extraction is proposed, prior approval will be taken from MoEF before commencement of any operation.

ii)	No change in the calendar plan including excavation, quantum of mineral coal and waste should be made.	No change in the calendar plan for quantum of mineral coal has been made nor envisaged in future. It is an underground mine, as such there is no excavation & no waste generation. This is an underground mine; coal production target is well within EC limit. EC has been granted for Coal production capacity of 0.4 MTPA and Coal production details for last 5 years is as given below: <table><tr><th>Year</th><th>Production (Te.)</th></tr><tr><td>2018-19</td><td>1,18,000</td></tr><tr><td>2019-20</td><td>83,000</td></tr><tr><td>2020-21</td><td>80,572.61</td></tr><tr><td>2021-22</td><td>28712.38</td></tr><tr><td>2022-23</td><td>NIL (Production discontinued 30.09.2021)</td></tr></table>	Year	Production (Te.)	2018-19	1,18,000	2019-20	83,000	2020-21	80,572.61	2021-22	28712.38	2022-23	NIL (Production discontinued 30.09.2021)
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iii)	Four ambient air quality monitoring stations should be established in the core zone as well as in the buffer zone for SPM, RPM, SO2 and Nox monitoring,. Location of the stations should be decided based on the meteorological data, topographical features and environmentally and ecologically sensitive targets in consultation with the State Pollution Control Board.	Four monitoring stations have been established in consultation with MPCB covering core and buffer zone. 1) Manager Office(Mahakali U/G)- Core Zone 2) Sub Station – CRC – Buffer Zone 3) Colony – Core Zone 4) Jatwara Milk Scheme.- Buffer Zone												
iv)	Fugitive dust emissions (SPM and RPM) from all the sources should be controlled and regularly monitored and data recorded properly. Water spraying arrangement on haul roads, wagon loading, dump trucks (loading and unloading) points should be provided and properly maintained.	As production of Mahakali Colliery has been suspended from 30.09.2021. There are no sources of Fugitive dust emissions.												
v)	Data on ambient air quality (SPM, RPM, SO2 and Nox) should be regularly submitted to the Ministry including its Regional Office at Bhopal and to the State Pollution Control Board and the Central Pollution Control Board once in six Months.	Data on ambient air quality is being regularly submitted to MPCB & MOEF. Latest report on Air quality for the month of March 2023 has been submitted vide email anoenv.cha@coalindia.in on dated 05.05.2023.												
vi)	Adequate measures should be taken for control of noise levels below 85 dBA in the work environment. Workers engaged in blasting and drilling operations, operation of HEMM, etc should be provided with ear plugs/muffs.	This is an underground mine, thus there is no HEMM. All machineries viz. Haulages, belt conveyors, side discharge loaders are deployed in underground. Proper lubrication of all machineries is ensured. Noise levels of underground machineries are well within permissible limit i.e 85dBA as per monitoring reports enclosed as Annexure-N and noise level control measures in underground workings are covered under Coal Mines Regulation-2017 as well as DGMS (Tech) circular 18 of 1975.												
vii)	Industrial waste water (workshop and wastewater from the mine) should be properly collected, treated so as to conform to the standards prescribed under GSR 422 (E) dated 19 th May 1993 and 31 st December 1993 or as amended from time to time before discharge. Oil and grease trap should be installed before discharge of workshop effluents.	This is an underground mine and there is no HEMM. As such there is no workshop with washing facilities for HEMM (Pit head workshop provided with lathe machines etc.) and hence there is no question of effluent from workshop. Therefore, the issue of providing oil & grease trap for workshop effluent does not arise. Mine water discharge is allowed to settle on two interconnected sedimentation tanks of capacity 75000 gallons (341 cum) together and then treated with pressure filter of 1 MLD capacity. Treated water further supplied to nearby residents for domestic usage. The mine pumped out water is monitored every fortnight as per Environment Protection Amendment Rule, 2000.												
viii)	Vehicular emissions should be kept under control and regularly monitored. Vehicles used for transporting the mineral should be covered with tarpaulins and optimally loaded.	As production of MKC has been suspended from 30.09.2021, there is no transportation of coal is being carried out.												
ix)	Environmental laboratory should be established with adequate number and type of pollution monitoring and	It exists at CMPDIL, Nagpur and monitoring is entirely carried out by CMPDIL.												

	analysis equipment in consultation with the State Pollution Control Board.															
x)	Personnel working in dusty areas should wear protective respiratory devices and they should also be provided with adequate training and information on safety and health aspects. Occupational health surveillance program of the workers should be undertaken periodically to observe any contractions due to exposure to dust and to take corrective measures, if needed.	Dust masks are provided to personnel working in dusty areas and control measures are being taken against dust generation by providing regular water spraying arrangement at the workings, and Adequate training is being imparted to worker and SOPs (Safe operating procedures) are distributed among workers giving information on safety and health aspects. Periodical medical examination is done once in five years. PME details are as follows: <table><tr><td>Year</td><td>Achieved</td></tr><tr><td>2019</td><td>191</td></tr><tr><td>2020</td><td>242</td></tr><tr><td>2021</td><td>125</td></tr><tr><td>2022</td><td>30</td></tr><tr><td>2023(Till march 2023)</td><td>104</td></tr></table> Till date no such incidence of occupational disease and hearing impairment has been recorded.	Year	Achieved	2019	191	2020	242	2021	125	2022	30	2023(Till march 2023)	104		
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xi)	A separate environmental management cell with suitable qualified personnel should be set up under the control of a Senior Executive, who will report directly to the Head of the company.	At project level Env. Management Cell is headed by Sub Area Manager and is directly assisted by Project Nodal Officer [Env./Dy.M(C)]. At Area level the A.G.M. heads the cell assisted by Area Nodal Officer (Env.). At Corporate level GM (Env.) heads the Env. Deptt. assisted by multi disciplinary team of qualified and trained engineers who reports directly to the Director (Technical)														
xii)	The funds earmarked for environmental protection measures should be kept in separate account and should not be diverted for other purpose. Year-wise expenditure should be reported to this Ministry and its Regional Office at Bhopal.	Separate fund for environmental protection measure has been kept in separate account and year wise expenditure is being reported to the Ministry. Yearwise details of expenditure for Mahakali Colliery is as follows: <table><tr><td>Year</td><td>Expenditure(Lakhs)</td></tr><tr><td>2017-18</td><td>86.65</td></tr><tr><td>2018-19</td><td>76.88</td></tr><tr><td>2019-20</td><td>89.28</td></tr><tr><td>2020-21</td><td>76.49</td></tr><tr><td>2021-22</td><td>Nil (Mine discontinued from 30.09.2021)</td></tr><tr><td>2022-23</td><td>Nil (Mine discontinued from 30.09.2021)</td></tr></table>	Year	Expenditure(Lakhs)	2017-18	86.65	2018-19	76.88	2019-20	89.28	2020-21	76.49	2021-22	Nil (Mine discontinued from 30.09.2021)	2022-23	Nil (Mine discontinued from 30.09.2021)
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xiii)	The Regional Office of this Ministry located at Bhopal shall monitor compliance of the stipulated conditions. The Project authorities shall extend full cooperation to the office(s) of the Regional Office by furnishing the requisite data/information /monitoring reports.	Full Cooperation will be extended from project authorities for monitoring the EC compliance.														
xiv)	A copy of the environmental clearance letter shall be marked to concerned Panchayat/local NGO, if any, from whom any suggestion/representation has been received while processing the proposal.	Copy of EC submitted to Panchayatvide letter no. WCL/CHA/GM/ENV/1414/1526 Dated 20/21.08.2006. (Copy enclosed as Annexure-H)														
xv)	State Pollution Control Board should display a copy of the clearance letter at the Regional Office, District Industry Centre and Collector's Office/Tahsildar's office for 30 days.	Copy of environment clearance submitted to MPCB vide letter no. WCL/CHA/GM/ENV/1413/1523 Dated 20/21.08.2006 (Copy enclosed as Annexure-I)														
xvi)	The Project authorities should advertise at least in two local newspapers widely circulated around the project, one of which shall be in the vernacular language of the locality concerned within seven days of the clearance letter informing that the project has been accorded environmental clearance	Advertised in two local newspapers i.e. Dainik Hindi Mahavidharbha and Dainik Chandrapur Samachar on dated 22.08.2006 (copy enclosed as Annexure-J).														

	and a copy of the clearance letter is available with the State Pollution Control Board and may also be seen at the website of the Ministry of Environment & Forests at http://envfor.nic.in .	
3)	The Ministry or any other competent authority may stipulate any further condition for environmental protection.	Noted
4)	Failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract the provisions of the Environment (Protection) Act, 1986.	Noted
5)	The above conditions will be enforced <i>inter-alia</i> , under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act 1981, the Environment (Protection) Act, 1986 and the Public Liability Insurance Act, 1991 along with their amendments and Rules.	Noted


11/16/23
Colliery Manager
Mahakali Colliery