

Northern Coalfields Limited
Khadia Area

COMPLIANCE REPORT OF THE LETTER NO.J-11015/ 255 / 2006 - IA.II(M) FROM MOEF&CC, NEW DELHI DTD. 27.07.2022 PERTAINING TO ENVIRONMENTAL CLEARANCE FOR KHADIA OPENCAST COAL MINE EXPANSION PROJECT (15 MTPA)

Sl. No.	Conditions	Status												
i.	PP shall submit certified compliance report of EC vide no. F. No. J-11015/255/2006-IA.II(M) dated 23.03.2016 granted for total 40 % expansion, along with EIA/EMP report, prepared based on standard ToRs for the additional capacity of 10 % on PARIVESH portal within six months of enhancement of production beyond 40 %.	The certified compliance report for EC of 14 MTPA and EIA/EMP report for 15 MTPA prepared based on Standard ToRs has been submitted to MoEF&CC through Parivesh Portal on 18.01.2023.												
ii.	In view of above (i), Ministry shall ascertain the adequacy of the proposed environmental safeguards and stipulate necessary conditions, if required, which shall be monitored as a part of the EC compliance monitoring.	Project agrees to this condition.												
iii.	PP shall obtain necessary prior consent for enhanced capacity from state pollution control board under Air & Water Act	<p>Khadia Project has obtained CTO from both UPPCB and MPPCB under Air & Water Act for enhanced production. The details of CTO are as follows.</p> <table border="1"> <thead> <tr> <th>Sl. No.</th> <th>SPCB</th> <th>Consent No.</th> <th>Validity of consent</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>MPPCB</td> <td>AW-57297 dated 28.12.2022</td> <td>31.12.2023</td> </tr> <tr> <td>2</td> <td>UPPCB</td> <td>166971 issued on 12.12.2022</td> <td>31.12.2024</td> </tr> </tbody> </table>	Sl. No.	SPCB	Consent No.	Validity of consent	1	MPPCB	AW-57297 dated 28.12.2022	31.12.2023	2	UPPCB	166971 issued on 12.12.2022	31.12.2024
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1	MPPCB	AW-57297 dated 28.12.2022	31.12.2023											
2	UPPCB	166971 issued on 12.12.2022	31.12.2024											
iv.	Environmental quality parameters arising out of proposed expansion shall be within the prescribed norms and same shall be maintained as per prescribed norms.	Agreed. Environmental quality parameters arising out of the expansion from 14 MTPA to 15 MTPA are kept within prescribed norms and shall be maintained.												
v.	Hon'ble Supreme Court in an Writ Petition(s) Civil No. 114/2014, Common Cause vs Union of India &	Khadia Project, NCL has prepared a mine plan and mine closure plan for 15 MTPA (Approved by NCL Board on 30.05.2022).												

	<p>Ors vide its judgement dated 08th 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 mining activity is over at the cost of mining lease holders/project proponent.</p>	<p>As per mine plan of 15 MTPA, out of total 1640 Ha lease hold area, plantation will be done in around 1378 Ha. Cost of this plantation shall be borne by NCL. Plantation is continuously being done through UP forest department. In FY 2022-23, plantation was done on 33 Ha of overburden dump area and 0.5 Ha of Miyawaki afforestation on plain area. In FY 2023-24, plantation on 13.39 Ha of overburden area is proposed to be done in monsoon season.</p>
<p>vi.</p>	<p>All other terms and conditions as prescribed in Ministry's letter dated 10.04.2007 and 23.03.2016 shall remain the same and need to be complied by PP.</p>	<p>All other terms and conditions as prescribed in Ministry's letter dated 10.04.2007 and 23.03.2016 are being complied. Compliance statuses of these conditions are given below.</p>
<p>Additional Specific conditions as the area falls under Severely Polluted Areas (SPAs)</p>		
<p>(i)</p>	<p>Transportation of material by rail / conveyor belt shall be implemented</p>	<p>Khadia Project, NCL (Capacity 15 MTPA) is currently equipped with Coal Handling Plants of 04 MTPA and 06 MTPA, through which coal is being dispatched through Merry-Go-Round Arrangement. In addition to this, currently approx. 2.19 MTPA of coal is being dispatched through Krishnashila CHP and approx. 02 MTPA is being dispatched through Jhingurdah Wharf wall.</p> <p>In addition to above, an additional Rapid Loading System of 04 MTPA is proposed to be constructed at Khadia Project, NCL.</p>
<p>(ii)</p>	<p>Encourage use of cleaner fuel in trucks, if the roads required to be widened up to nearest railway siding, the same be constructed to avoid traffic congestion.</p>	<p>Khadia Project is equipped with three nos. of draglines, which are not only electricity driven but also reduces truck movement (which would otherwise be required for transportation of overburden).</p> <p>Besides, maximum of coal is being transported through Coal Handling Plants of 04 MTY and 06 MTY and are electricity driven, which also reduces truck movement (which would otherwise be required for transportation of coal).</p>

		Further, an additional Rapid Loading System of 04 MTPA is proposed to be constructed at Khadia Project, NCL, which shall be powered through electricity.
(iii)	Increase green belt cover by 40% of the total land area beyond the permissible requirement of 33%, wherever feasible.	As per mine plan of 15 MTPA, out of total 1640 Ha lease hold area, plantation will be done in around 1378 Ha. Plantation is continuously being done through UP forest department. In FY 2022-23, plantation was done on 33 Ha of overburden dump area and 0.5 Ha of Miyawaki afforestation on plain area. In FY 2023-24, plantation on 13.39 Ha of overburden area and 0.32 Ha of plain area is proposed to be done in monsoon season.
(iv)	Green belt outside the project premises such as avenue plantation, plantation in vacant areas, social forestry, etc. shall be implemented.	Green belt outside the project premises is being done by M/s Northern Coalfields Limited. In FY 2022-23, plantation on 100 Ha 220 Ha area outside the premises of Northern Coalfields Limited was done through UP Forest Department and Singrauli forest division of MP Forest Department respectively. For FY 2023-24, Work order has already been issued to Renukoot Forest Department for plantation on 150 Ha and to Singrauli Forest Division for plantation on 325 Ha.
(v)	Assessment of carrying capacity of mine and road transportation shall be done as per the state plan/ instructions.	Carrying capacity of the mine and traffic study is being done through Central Mine Planning Design Institute.
(vi)	Reuse / recycle of treated waste water shall be implemented as feasible with latest technology. Zero liquid discharge concepts may be adopted.	The mine water is treated through Effluent Treatment Plant (38.4 MLD) and the treated water is used for spraying on haul roads, fire fighting, green belt development etc. Zero discharge condition is being maintained. Also, Waste generated from colony premises is being treated in Sewage Treatment Plant of 1.5 MLD capacity and based on Moving Bed Biofilm Reactor (MBBR) and Dual Media Filter & Activated Carbon Filter and treated water is being used in horticulture.
(vii)	PP to install continuous monitoring station for ambient air quality and also continuous effluent quality in ETP shall be installed. Data so	Khadia Project has already installed one no. of continuous ambient air quality monitoring station with connectivity to CPCB and SPCB portal. Khadia Project is also in the process of installation

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	generated shall be linked with respective SPCB and CPCB websites.	of CEQMS at ETP of Khadia area and likely to be completed by August'2023.												
(viii)	A detailed water harvesting plan may be prepared by the project proponent for water augmentation and submitted to Regional Office of MoEF&CC.	Khadia Project is currently equipped with 07 nos. of rain water harvesting structures. Further a detailed water augmentation plan is under preparation by CMPDIL and shall be submitted to Regional Office of MoEF&CC.												
(ix)	The project proponent shall install STP for generated domestic waste water and should meet for discharge standards	Khadia Project is already equipped with sewage treatment plant of 1.5 MLD capacity and treated water is being reused in horticulture.												
(x)	More stringent norms for management of hazardous waste like oil container, ETP sludge etc shall be adopted. The waste generated should be preferably utilised in co-processing.	Hazardous wastes are being handled as per Hazardous & Other waste (Management & Transboundary Movement) Rules, 2016 and an authorisation under this rule has also been obtained from UP Pollution Control Board with authorisation no. 16980 and validity upto 11.07.2027. In FY 2022-23, 150 KL burnt oil has been lifted through authorised recyclers till Mar'23 and 10.03 tonne of oil containing wastes has been disposed through M/s Bharat Oil & Waste Management, Kanpur.												
(xi)	Monitoring of compliance of EC conditions may be submitted with third party audit every year.	Project abides by this condition. A third party audit by the team of ICFRE has been held in the month of December'2021 and report of the same has been received in Jan'23. A third party audit will be conducted every year in compliance of the condition.												
(xii)	Fund allocation for Corporate Environment Responsibility (CER) which is atleast 1.5 times as per OM of 1 st May , 2018 may now be considered as 1.5 times of fund allocated on commitment made during public consultation process for incorporating in EIA-EMP for deliberation of EAC and item wise details along with time bound action plan shall be prepared and submitted to the Ministry's regional office.	Project abides by this condition. In this regard, a committee has been constituted at project level and the committee is under discussion with local villagers for the purpose of assessment of work required to be done. Besides this, truck mounted fog cannon (02 nos.) and road sweeping machine (02 nos.) are deployed on state highway besides khadia Project. Expenditure incurred on these machines are as tabulated below.												
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			based Road Sweeping Machine	and currently operational	
		3	Deployment of self propelled Road Sweeping Machine	Procured in 2020-21 and currently operational	138 Lakhs
		4	Deployment of additional truck mounted Fog cannon on hiring basis	Hired in 2022-23	51.88 Lakhs/Annum including Diesel Cost
		5	Expenditure incurred on manual brooming of road from Gate no.3 to over bridge.	2022-23	19.91 Lakhs

COMPLIANCE AGAINST CONDITIONS MENTIONED IN LETTER NO.J-11015/ 255 / 2006 - IA.II(M) FROM MOEF&CC, NEW DELHI DTD.23.03.2016

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i	The maximum production from mine at any given time shall not exceed the limit as prescribed in the EC.	<p>The maximum production from mine has never been exceeded and will never exceed the limit prescribed in the EC. Coal Production since grant of EC is as follows.</p> <table border="1"> <thead> <tr> <th rowspan="2">Year</th> <th colspan="3">Coal Production (in Million T)</th> </tr> <tr> <th>In UP</th> <th>In MP</th> <th>Total</th> </tr> </thead> <tbody> <tr> <td>2015-16</td> <td>2.325</td> <td>4.410</td> <td>6.735</td> </tr> <tr> <td>2016-17</td> <td>3.453</td> <td>2.553</td> <td>6.006</td> </tr> <tr> <td>2017-18</td> <td>5.163</td> <td>3.637</td> <td>8.8</td> </tr> <tr> <td>2018-19</td> <td>6.958</td> <td>4.442</td> <td>11.4</td> </tr> <tr> <td>2019-20</td> <td>8.302</td> <td>4.881</td> <td>13.183</td> </tr> <tr> <td>2020-21</td> <td>7.8905</td> <td>6.1095</td> <td>14.00</td> </tr> </tbody> </table>	Year	Coal Production (in Million T)			In UP	In MP	Total	2015-16	2.325	4.410	6.735	2016-17	3.453	2.553	6.006	2017-18	5.163	3.637	8.8	2018-19	6.958	4.442	11.4	2019-20	8.302	4.881	13.183	2020-21	7.8905	6.1095	14.00
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		2021-22	8.659	5.340	14.00
		2022-23	9.730	5.269	15.00
li	The validity of the EC is for the life of the mine or as specified in the EIA Notification, 2006, whichever is earlier.	Validity of the EC shall be as specified in the EIA Notification, 2006.			
lii	All the measures detailed in Mining Plan and Mine Closure Plan shall be implemented.	All the measures detailed in Mining Plan and Mine Closure Plan such as CHP, covered conveying system, delay detonator in blasting, plantation etc. are being implemented by Khadia Project.			
iv	OB from Dudhichua mine shall be used for backfilling of mine void. At the mine closure 39 ha of void will be filled to near ground level.	Will be done at the time of mine closure.			
v	The CHP will be completed by October, 2016 which will meet the production of 10 MTPA plus some additional requirements.	The construction of additional CHP (6 MTY) has been completed. 10 MTPA plus some additional coal is being dispatched through CHP.			
vi	The additional production should be met after completion of CHP.	The additional production of coal is being done only after construction of additional CHP. New CHP was commissioned in March 2018 and Khadia Project crossed 10 MTPA mark in 2018-19.			
vii	Presently road transport of coal to Anpara TPP will be converted to rail dispatch after the completion of the Khadia new CHP and the railway siding at Anpara TPP.	The new CHP has been linked with MGR system and the majority of current transport is being done through MGR dispatch.			
viii	The proposal for road transport of the e-auction coal is up to 10 percent of the production is agreed	<p>Khadia Area is equipped with CHP of 10 MTY, through which coal is being dispatched through merry-go-round arrangement.</p> <p>Besides that, infrastructure of other projects of NCL is being utilised for coal transportation through rail mode. Around 2.19 MT / Annum of coal is being dispatched using CHP of Krishnashila project and approx. 2 MT/Annum is being dispatched through Jhingurdah Wharfwall.</p> <p>Further Khadia Project is envisaging construction of an additional Rapid Loading System (RLS) of 04 MTY capacity.</p>			
ix	The production shall be within the same mining lease area	The production is being done within the same mining lease area.			
x	The OB shall be completely re-handled at the end of the mining.	Will be Complied at the end of mine life.			
xi	Garland drains be provided	<p>Garland drain of around 7.8 KM has been provided to avoid siltation.</p> <p>Besides the above, there are kutchra garland drains provided at many locations along the infrastructure area, on intermediate terraces of both the external waste dumps, etc.</p> <p>Regular cleaning / sit removal from these drains also</p>			

		takes place before onset of monsoon.
Xii	Appropriate embankment shall be provided along the side of the river/nallah flowing near or adjacent to the mine.	Not Applicable as there is no river / nallah flowing near or adjacent to the mine.
xiii	The land after mining shall be brought back for agriculture purpose.	Will be Complied at the end of mine life.
Xiv	Mine water should be treated for discharge into the lagoon. The quality of the lagoon water shall be regularly monitored and mitigation measures taken.	The mine water is treated through Effluent Treatment Plant (38.4 MLD) and the treated water is used for spraying on haul roads, fire fighting, green belt development etc..
Xv	The CSR cost should be as per the prevalent policy of Ministry of Coal or the Coal India Limited.	CSR cost is as per prevalent policy i.e. 2% of the average net profit of the immediate preceding three financial years or Rs. 2 per tonne of coal production of previous year whichever is higher. Total CSR expenditure of last 05 years is as under :- 2018-19 = 3.85 crore 2019-20 = 5.66 crore 2020-21 = 5.25 crore 2021-22 = 6.84 Crore 2022-23 = 5.43 Crore
Xvi	Everybody in the core area should be provided with mask for protection against fugitive dust emissions.	Everybody in the core area has been provided dusk mask for protection against fugitive dust emissions.
Xvii	Dust mask to be provided to everyone working in the mining area.	Everyone working in the mining area are being provided dusk mask. Details of dust masks distributed in last 05 years is as under :- 2018-19 = 4048 2019-20 = 10160 2020-21 = 6045 2021-22 = 9535 2022-23 = 3619
Xviii	The supervisory staff should be held personally responsible for ensuring compulsory regarding wearing of dust mask in the core area.	All the supervisory staff have been instructed to ensure strict compliance regarding wearing of dust mask by mine personnel in the core area.
Xix	People working in the core area should be periodically tested for the lung diseases and the burden of cost on account of working in the coal mining area.	The periodical health checkup of more than 20% mine workers is being done annually at company hospital for compliance of the provisions of The Mines Rules, 1955.
Xx	Mining area should be grounded by green belt having thick closed thick canopy of the tree cover.	Greenbelt plantation (2.0 - 2.5 running km) comprising of both planted as well as natural trees is located along the southern boundary starting from behind the Weigh Bridge-1 towards east. The vegetation growth is approximately more than 15 years old. Khadia mine is surrounded by Krishnashila mine in the east and Dudhichua Mine in the west. In the southern side of the mine, green belt has been developed.

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		In the North of the mine lies protected forest in M state. Rs. 45 Lakhs have been deposited to MP Forest Department for safety zone plantation.
Xxi	The embankment constructed along the river boundary shall be of the suitable dimensions and critical patches shall be strengthened by stone pitching on the river front side and stabilized with plantation so as to withstand the peak water flow and prevent water inundation.	There is no river near the mine premises.
Xxii	There shall be no overflow of OB into the river and into the agricultural fields and massive plantation of native species shall be taken up in the area between river and the project.	There is no river near the mine premises. Massive planation is being done on Overburden dumps through UP forest department. Gabion wall/retaining wall are constructed wherever necessary to avoid siltation.
Xxiii	OB shall be stacked at two earmarked external OB dumpsite(s) only. The ultimate slope of the dump shall not exceed 28°. Monitoring and management of existing reclaimed dumpsites shall continue until the vegetation becomes self-sustaining. Compliance status shall be submitted to the Ministry of Environment, Forest & Climate Change and its concerned regional office on yearly basis.	The height and width of benches in OB dumps are maintained within permissible limits and wherever possible stabilised with plantation. The external as well as internal dumps have not achieved its projected height (500m above MSL). Back filling and concurrent reclamation is a continuous process. Approx. 194.5 Ha OB dump area (70 Ha internal and 124.5 Ha external) has been reclaimed as on date by plantation through UP Forest deptt. The ultimate slope of the dump will not exceed 28°. Monitoring and management of reclaimed dump site is continued. The compliance status is being regularly submitted to the Ministry of Environment & Forest, Regional office located at Lucknow & Bhopal.
Xxiv	Catch drains and siltation ponds of appropriate size shall be constructed to arrest silt and sediment flows from soil, OB and mineral dumps. The water so collected shall be utilised for watering the mine area, roads, green belt development, etc. The drains shall be regularly desilted and maintained properly. Garland drains (size, gradient and length) and sump capacity shall be designed keeping 50% safety margin over and above the peak sudden rainfall and maximum discharge in the area adjoining the mine site. Sump capacity shall also provide adequate retention period to allow proper settling of silt material.	As per design, there are different types of structures implemented as per the suitability of the ground condition. <ol style="list-style-type: none"> 1. The retaining wall of total length of 4.150 KM has been constructed. Retaining walls will be further constructed as per requirement as mine progresses. 2. Garland drains of a total length of 7.8 km along both the east and west dumps put together as well as quarry are provided in the lease area. 3. Smooth draining of surface water along haul/approach road is made possible by implementing catch drains, which are surface drains to intercept, collect and lead the flow of water in order to prevent water inrush on road and other related infrastructure facilities and are designed as per the rainfall density and elevational gradient of the area. Catch drains of appropriate type, length and dimensions with a total length of 3.320 Km have been provided, which is regularly being desilted.

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		<p>4. Water so collected is being treated in ETP and reused in watering the mine area, roads, green belt development, etc</p> <p>5. There are three mine sumps viz., S-1 at eastern section as well as S- 2A and S-3 at western section. Both S-1 and S-3 sumps are being utilized as surface water source for mining related activities. The mine sump water after proper settlement of silt and sediments is being pumped to designated locations within mine lease to be used for dust suppression and other related uses.</p> <p>6. Silt Settling Pond:- Settling ponds are regarded as one of the key structures in the surface water management having the function of retaining the silt and sediments from contaminated water mainly emanating from infrastructure area such as CHP, OB dumps, railway sidings, stockyard, etc.</p>
xxv	Dimension of the retaining wall at the toe of the dumps and OB benches within the mine to check runoff and siltation shall be based on the rainfall data.	Height of retaining wall varies from 2 m to 4m depending on the site conditions.
Xxvii	Crushers at the CHP of adequate capacity for the expansion project shall be operated with high efficiency bag filters, water sprinkling system shall be provided to check fugitive emissions from crushing operations, conveyor system, haulage roads, transfer points, etc.	<p>Coal Handling Plant of 04 MTY capacity is equipped with Cyclone type dust extractor, automatic water sprinklers at crusher point and fixed water sprinklers at transfer points of CHP.</p> <p>Coal Handling Plant of 06 MTY is equipped with gyratory crusher, which is fully enclosed system, automatic water sprinkler system at crusher unloading point and Dry Fog Dust Suppression System at transfer points.</p> <p>Coal is being transported from crusher to Silo through enclosed conveyor belts.</p> <p>For water sprinklers at haulage road, mobile water sprinkling is being done. Fixed Water Sprinklers are also provided near coal yard no.1. In addition to this, one no. of fixed fog cannon is also deployed at coal yard no. 1.</p>
Xxvii	Drills shall be wet operated.	Drills are either wet operated and/or are provided with highly effective dust extractors, guards & dust collectors.
Xxvii i	The project authorities shall undertake regular repairing and tarring of roads used for mineral transportation. A 3-tier green belt comprising of a mix of native species shall be developed all along the major	A WBM road of around 2 KM length has been constructed. A metalled is also constructed from mine barrier to New Workshop. Further, a concrete road of 6.61 KM length is also under construction at Khadia Project.

	approach roads,	<p>Greenbelt plantation (2.0 - 2.5 running km) is located along the southern boundary starting from behind the Weigh Bridge-1 towards east.</p> <p>Township/Colony plantation The Khadia township is located over an area of 75 ha further SW of the mine and south of the PWD road. The area is well afforested with mixed native tree species together with few exotic species. Both single/multi-row planting along the avenue areas and block plantation on vacant land has been planted in the colony/township area. Apart from this, an area of 7.0 ha has been developed as an ecological park named 'Nandankanan' located close to the administrative buildings.</p>
Xxix	Controlled blasting shall be practiced with use of delay detonators and only during daytime. The mitigative measures for control of ground vibrations and to arrest the fly rocks and boulders shall be implemented.	Controlled blasting is practiced with use of delay detonators in between 01:00 PM to 02:00 PM. The ground vibrations are regularly monitored and kept controlled. Fly rocks are checked and blasting shelters are used.
xxx	A Progressive afforestation plan shall be implemented at the end of mining, which includes reclaimed External OB dump area (258 ha), Internal OB dump area (808 ha) and Green belt (49 ha) and in township located outside the lease by planting native species in consultation with the local DFO/Agriculture Department. The density of the trees shall be around 2500 plants per ha. Massive plantation shall be carried out in open spaces in and around the mine and a 3-tier avenue plantation along the main approach roads to the mine.	At present, OB Dumping in M.P. state has not achieved final height. In U.P. state, total 22,39,655 sapling have been planted at Khadia Project from 1987-88 to 2022-23 through the UP Forest Deptt., Renukut forest division. Native species are being planted in consultation with the local DFO.
Xxxi	An estimated total 1255.72 Mm³ of OB will be generated during the entire life of the mine. Out of which 254.33 Mm³ of OB will be dumped in two external OB Dumps an earmarked area covering 258 ha of land. 1001.72 Mm³ of will be two internal OB dump in covering an area of 808 ha . The maximum height of external OB dump will not exceed 90 m . The maximum slope of the dump shall not exceed 28 degrees . Monitoring and management of reclaimed dump sites shall continue till the vegetation becomes self- sustaining and compliance status shall be submitted to MOEFCC and its Regional Office on yearly basis.	The total of 1255.72 Mm³ of OB shall be stacked at earmarked sites of external dump (258 ha) and internal dump (808 ha). The height and width of benches in OB dumps are maintained within permissible limits and wherever possible, stabilised with plantation. The external as well as internal dumps have not achieved its projected height. Back filling and concurrent reclamation is a continuous process. Approx. 194.5 Ha OB dump area (70 Ha internal and 124.5 Ha external) has been reclaimed as on date by plantation through UP Forest deptt. The ultimate slope of the dump will not exceed 28° . Monitoring and management of reclaimed dump site is continued. The compliance status is being regularly submitted to the Ministry of Environment & Forest, Regional office located at

		Lucknow & Bhopal.
Xxxii	The proponent should prepare restoration and reclamation plan for the degraded area. The land be used in a productive and sustainable manner.	The restoration and reclamation of the degraded area will be restored as per Mine Closure Plan. The land will be used in a productive and sustainable manner.
Xxxii i	Compensatory Ecological & Restoration of waste land, other degraded land and OB dumps in lieu of breaking open the land be carried out.	<p>The ecological restoration of both external and internal backfilled OB waste dumps in lieu of breaking open the land for mining is being carried out by afforesting through UP Forest Department. The afforestation work in the mining area is being continued as per the progressive mine closure plan.</p> <p>The condition in respect of Compensatory Ecological & Restoration of waste land, other degraded land in lieu of 1305.0 ha forest land diverted for mining in both Dudhichua and Khadia OCPs combined in Uttar Pradesh State has been complied by depositing an amount of Rs.4,20,34,050.00 vide SBI DD No. 231785 dated 26-11-1994 to the Director, Social Forestry District-Hardoi.</p> <p>Further, the compensatory afforestation of 360.0 ha degraded land in District Singrauli in lieu of diversion of 180.0 ha Forest Land acquired for Khadia Project in the state of Madhya Pradesh has been complied by depositing an amount of Rs. 10.80 Crore vide SBI Morwa DD No. 210211 dated 06.10.2009 to the Madhya Pradesh State Forest Department.</p>
Xxxi v	The mining should be phased out in sustainable manner. No extra over burden dumps are permitted.	The mining is being done in sustainable manner as per approved mine plan. No extra over burden dumps will be created.
Xxxv	No groundwater shall be used for mining operations.	No ground water is being used for mining operations apart for mine seepage during the course of mining.
Xxxv i	Of the total quarry area of 1003 ha. the backfilled quarry area of 808 ha shall be reclaimed with plantation and a void of 39 ha which is proposed to be converted into a water body shall be gently sloped and the upper benches shall be terraced and stabilised with plantation/afforestation by planting native plant species in consultation with the local DFO/Agriculture Department. The density of the trees shall be around 2500 plants per ha.	Of the total quarry area of 1003 ha. the backfilled quarry area of 808 ha will be reclaimed with plantation and at the mine closure, 39 ha of void will be filled to near ground level by OB from Dudhichua Mine as per specific condition no. iv of this EC
Xxxv ii	Regular monitoring of groundwater level and quality shall be carried out by establishing a network of existing wells and construction of new peizometers. The monitoring for quantity shall be done four times a year in pre-monsoon (May),	Regular monitoring of ground water level and quality is carried out through dug wells and piezometers (6 nos.) four times a year. The variation during winter season for last three years in water level is as shown below.

	<p>monsoon (August), post-monsoon (November) and winter (January) seasons and for quality in May. Data thus collected shall be submitted to the Ministry of Environment, Forests & Climate Change and to the Central Pollution Control Board quarterly within one month of monitoring.</p>	<table border="1" data-bbox="799 115 1450 409"> <thead> <tr> <th rowspan="2">Well</th> <th colspan="3">Water level in m bgl (Winter Season)</th> </tr> <tr> <th>Feb'21</th> <th>Feb'22</th> <th>Feb'23</th> </tr> </thead> <tbody> <tr> <td>Khadia Basti</td> <td>3.20</td> <td>3.10</td> <td>3.30</td> </tr> <tr> <td>Khadia DAV</td> <td>2.25</td> <td>2.10</td> <td>2.10</td> </tr> <tr> <td>Khadia</td> <td>1.95</td> <td>1.95</td> <td>1.55</td> </tr> <tr> <td>Chilkadand</td> <td>4.70</td> <td>4.30</td> <td>4.55</td> </tr> </tbody> </table> <p>Reports are being submitted to the regional offices of MoEF & CPCB.</p>	Well	Water level in m bgl (Winter Season)			Feb'21	Feb'22	Feb'23	Khadia Basti	3.20	3.10	3.30	Khadia DAV	2.25	2.10	2.10	Khadia	1.95	1.95	1.55	Chilkadand	4.70	4.30	4.55
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Xxxv iii	<p>The Company shall put up artificial groundwater recharge measures for augmentation of groundwater resource in case monitoring indicates a decline in water table. The project authorities shall meet water requirement of nearby village(s) in case the village wells go dry due to dewatering of mine.</p>	<p>The mine workings are on hilly terrain. Mine & rain water is collected in sufficient capacity in mine sump and in one large size pond for ground water recharge. Seven nos. of roof top rain water harvesting structures are operational.</p> <p>The ground water level & quality of nearby areas is regularly being monitored and report submitted to MOEF regional offices at Bhopal & Lucknow. In case the village wells go dry, water requirement of nearby village(s) shall be taken care of.</p>																							
Xxxi x	<p>Sewage treatment plant shall be installed in the existing colony. ETP shall also be provided for workshop and CHP wastewater.</p>	<p>Sewage Treatment Plant (1.5 MLD) in colony and Effluent Treatment Plant (38.4 MLD) in mines are functioning efficiently. Workshop, Mine water and CHP waste water are being treated at ETP and the treated water is being reused in mine. The spillage/ discharge conforms to GSR 742(E) dtd. 25.09.2000 standards for Coal mines.</p>																							
xi	<p>Besides carrying out regular periodic health check-up of their workers, 10% of the workers identified from workforce engaged in active mining operations shall be subjected to health check-up for occupational diseases and hearing impairment, if any, through an specialised agency /institution within the District/State and the results reported to this Ministry and to DGMS.</p>	<p>The occupational health check of 20% mine workers is being done annually at company hospital in compliance of the provisions of Coal Mine Rules.</p>																							
Xli	<p>Land oustees shall be compensated as per the norms laid out R&R Policy of CIL or the National R&R Policy or R&R Policy of the State Government whichever is higher.</p>	<p>The project abides by this condition.</p>																							
Xlii	<p>For monitoring land use pattern and for post mining land use, a time series of land use maps, based on satellite imagery (on a scale of 1: 5000) of the core zone and buffer zone, from the start of the project until end of mine life shall be prepared once in 3 years (for any one particular season which is consistent in the time series), and the report submitted to</p>	<p>Digital processing of the entire lease area using remote sensing technique is done regularly by CMPDIL Ranchi & its report are regularly sent to MOEF, New Delhi, Regional office at Bhopal & Lucknow. Latest report for the year 2021, published in March 2022 has also been uploaded on website of NCL, www.nclcil.in.</p>																							

	MOEFCC and its concerned Regional office	
Xliii	A detailed Final Mine Closure Plan along with details of Corpus Fund shall be submitted to the Ministry of Environment, Forests & Climate Change within 6 months of grant of Environmental Clearance.	Approved mine plan and mine closure plan for 15 MTPA has been submitted to Regional Office of MoEF&CC vide letter dated 28.11.2022
Xliv	The project authorities shall in consultation with the Panchayats of the local villages and administration identify socio-economic and welfare measures under CSR to be carried out over the balance life of the mine.	Project authorities remain in consultation with the Panchayats of local villages and administration to identify socio economic and welfare measures for CSR activities.
Xlv	Corporate Environment Responsibility:	
	a) The Company shall have a well laid down Environment Policy approved by the Board of Directors.	The company has an approved Corporate Environmental Policy.
	b) The Environment Policy shall prescribe for standard operating process/procedures to bring into focus any infringements/deviation/violation of the environmental or forest norms/conditions.	The objective of approved Corporate Environment Policy states for compliance of conditions stipulated in Environmental Clearance / Forest Clearance/ or any other statutory conditions issued by regulatory agencies.
	The hierarchical system or Administrative Order of the company to deal with environmental issues and for ensuring compliance with the environmental clearance conditions shall be furnished.	At Area level, the Environment Cell is headed by the Staff Officer (Mining) who is directly reporting to the General Manager, Khadia Project. At Northern Coalfields Limited H.Qtrs. a full-fledged Environment Management Deptt. is headed by the General Manager (Environment) under the control of the Director (Tech. / P&P) who directly reports to the CMD, NCL.
To have proper checks and balances, the company shall have a well laid down system of reporting of non-compliances/violations of environmental norms to the Board of Directors of the company and/or shareholders or stakeholders at large.	The company has a proper management system to report the noncompliance /violation to the top management and stakeholders at the large. Northern Coalfields Limited is an ISO 14001:2015 certified company which automatically provides platform for management review.	
4 B	B. General Conditions:	
i	No change in mining technology and scope of working shall be made without prior approval of the Ministry of Environment, Forest & Climate Change.	Env. Clearance letter no. J-11015/255/2006-1A.II(M) dtd. 27.07.2022 has been issued from MOEF for Khadia Expansion Project (15MTY). No change in mining technology and scope of working will be made without prior approval of the Ministry of environment and Forests.
ii	No change in the calendar plan of production for quantum of mineral coal shall be made.	No change in the calendar plan including excavation & quantum of mineral coal will be made.

		Year	Coal Production (in Million T)		
			In UP	In MP	Total
		2015-16	2.325	4.410	6.735
		2016-17	3.453	2.553	6.006
		2017-18	5.163	3.637	8.8
		2018-19	6.958	4.442	11.4
		2019-20	8.302	4.881	13.183
		2020-21	7.8905	6.1095	14.00
		2021-22	8.659	5.340	14.00
		2022-23	9.730	5.269	15.00
i	Four ambient air quality monitoring stations shall be established in the core zone as well as in the buffer zone for PM ₁₀ , PM _{2.5} , SO ₂ and NO _x monitoring. Location of the stations shall be decided based on the meteorological data, topographical features and environmentally and ecologically sensitive targets in consultation with the State Pollution Control Board. Monitoring of heavy metals such as Hg, As, Ni, Cd, Cr, etc carried out at least once in six months.	Four ambient air quality monitoring stations are established in core zone, and four ambient air quality monitoring stations are established in buffer zone for SPM, RPM, SO ₂ , NO _x and heavy metal monitoring. Monitoring of Heavy Metals is being regularly done through CMPDIL.			
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iv	Data on ambient air quality (PM ₁₀ , PM _{2.5} , SO ₂ and NO _x) and heavy metals such as Hg, As, Ni, Cd, Cr and other monitoring data shall be regularly submitted to the Ministry including its concerned Regional Office and to the State Pollution Control Board and the Central Pollution Control Board once in six months. Random verification of samples through analysis from independent laboratories recognised under the EPA rules, 1986 shall be furnished as part of compliance report.	Ambient air quality data (SPM, RPM, SO ₂ , NO _x , heavy metals) is being regularly submitted to the MOEF/SPCB/CPCB once in six months.			
v	Adequate measures shall be taken for control of noise levels below 85 dB(A) in the work environment. Workers engaged in blasting and drilling operations, operation of HEMM, etc shall be provided with ear plugs/muffs.	Noise pressure level is maintained below 85 dB(A) in the work environment. Ear plugs / muffs are regularly being distributed among employees engaged in comparatively high noise areas.			
vi	Industrial wastewater (workshop and wastewater from the mine) shall be properly collected, treated so as to conform to the standards prescribed under GSR 422 (E) dated 19 th May 1993 and 31 st December 1993 or as amended from time to time before discharge. Oil and grease trap shall be installed before discharge of workshop effluents.	Industrial waste water (workshop, CHP and waste water from the mine) is properly collected and treated at ETP (38 MLD capacity) and the treated water conform to the prescribed standards.			
vii	Vehicular emissions shall be kept under control and regularly monitored. Vehicles used for transporting the mineral shall be covered with tarpaulins and optimally loaded.	Vehicular emissions are kept under control by regular maintenance of vehicles. Major coal transport is made through MGR railway system. Sometimes vehicles are also used for transporting the mineral and are optimally loaded and kept covered.			

Viii	Monitoring of environmental quality parameters shall be carried out through establishment of adequate number and type of pollution monitoring and analysis equipment in consultation with the State Pollution Control Board and data got analysed through a laboratory recognised under EPA Rules, 1986.	A centrally located Environmental laboratory of CMPDIL, Jayant is working for all mines of NCL.
Ix	Personnel working in dusty areas shall wear protective respiratory devices and they shall also be provided with adequate training and information on safety and health aspects.	Personnel working in core mining area are provided protective respiratory devices. Initial training and refresher training programs of the workers are organised at VTC, Khadia whereas on the job training is organised at worksite.
X	Occupational health surveillance programme of the workers shall be undertaken periodically to observe any contractions due to exposure to dust and to take corrective measures, if needed and records maintained thereof. The quality of environment due to outsourcing and the health and safety issues of the outsourced manpower should be addressed by the company while outsourcing.	Periodic medical health check-up of mine personnel is done regularly and records are maintained in the prescribed form. The health and safety of the outsourced manpower is also taken care of. The compliance of all applicable environmental laws is an essential condition of the contract with outsourcing agencies which is being complied and monitored by the management.
Xi	A separate environmental management cell with suitable qualified personnel shall be set up under the control of a Senior Executive, who will report directly to the Head of the company.	At Area level, the Environment Cell is headed by the Staff Officer (Mining) who is directly reporting to the General Manager, Khadia Project. At Northern Coalfields Limited H.Qtrs. a full-fledged Environment Management Deptt. is headed by the General Manager (Environment) under the control of the Director (Tech. / P&P) who directly reports to the CMD, NCL.
Xii	The funds earmarked for environmental protection measures shall be kept in separate account and shall not be diverted for other purpose. Year-wise expenditure shall be reported to this Ministry and its concerned Regional Office.	New cost code has been generated in this regard and fund for environmental protection measures has been earmarked. Yearwise expenditure mentioned in environmental statement is being submitted to MoEF/SPCBs every year.
Xiii	The Project authorities shall advertise at least in two local newspapers widely circulated around the project, one of which shall be in the vernacular language of the locality concerned within seven days of the clearance letter informing that the project has been accorded environmental clearance and a copy of the clearance letter is available with the State Pollution control Board and may also be seen at the website of the Ministry of Environment, Forests & Climate Change at http://envfor.nic.in .	Advertisement regarding expansion of the project from 14 MTY to 15 MTY has been published in four local newspapers, details of which are as follows: 1. Vindhya Bharat, Rewa on 31.07.2022 2. Hindustan, Varanasi 31.07.2022 3. Aaj, Varanasi 29.07.2022 4. Dainik Bhaskar, Singrauli- 29.07.2022
Xiv	A copy of the environmental clearance letter shall be marked to concern Panchayat/Zila Parishad, Municipal Corporation or Urban local body and local NGO, if any, from whom any suggestion/representation has been received while processing the proposal.	The copy of the environmental clearance letter has been submitted to concerned Panchayats, Municipal corporation and local administration. The environmental clearance letter can also be seen at company website www.nclcil.in .

	A copy of the clearance letter shall also be displayed on company's website.	
Xv	A copy of the environmental clearance letter shall be shall also be displayed on the website of the concerned State Pollution Control Board. The EC letter shall also be displayed at the Regional Office, District Industry Sector and Collector's Office/Tehsildar's Office for 30 days.	The copy of EC letter has been provided to offices of District Magistrate / Collector. District Industrial Officer in both UP and MP state vide letter no. 3516 dated 30.07.2022 and 3517 dated 30.07.2022 respectively. Copy of EC has also been provided to UPPCB and MPPCB both for displaying the same on their website vide letter no. 3518 and 3519 dated 30.07.2022.
Xvi	The clearance letter shall be uploaded on the company's website. The compliance status of the stipulated environmental clearance conditions shall also be uploaded by the project authorities on their website and updated at least once every six months so as to bring the same in public domain. The monitoring data of environmental quality parameter (air, water, noise and soil) and critical pollutant such as PM ₁₀ , PM _{2.5} , SO ₂ and NO _x (ambient) and critical sectoral parameters shall also be displayed at the entrance of the project premises and mine office and in corporate office and on company's website.	The environment clearance letter has been uploaded on company's website www.nclcil.in . The compliance status of the Conditions stipulated in EC is uploaded on company's website www.nclcil.in and the same is being updated in every six months. Project has installed CAAQMS, through which real time data is being displayed.
Xvii	The project proponent shall submit six monthly compliance reports on status of compliance of the stipulated environmental clearance conditions (both in hard copy and in e-mail) to the respective Regional Office of the Ministry, respective Zonal Office's of CPCB and the SPCB.	The six monthly compliance report of Khadia are being submitted regularly both in hard copy and soft copy. The report for the period 01.04.2022 to 30.09.2022 has been submitted vide letter no. NCL/KHD/Env/MoEF-Bhopal/22-23/3684 dated 28.11.2022 in hard copy and soft copy.
xviii	The Regional Office of this Ministry located in the Region shall monitor compliance of the stipulated conditions. The Project authorities shall extend full cooperation to the office(s) of the Regional Office by furnishing the requisite data/information/monitoring reports.	The Project authorities are always in full cooperation to the Regional Office(s) of MoEF located at Lucknow & Bhopal by furnishing the requisite data / information / monitoring reports regularly.
Xix	The Environmental statement for each financial year ending 31 March in Form -V is mandated to be submitted by the project proponent for the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be uploaded on the company's website along with the status of compliance of EC conditions and shall be sent to the respective Regional Offices of the MoEF&CC by e-mail.	The environmental statement for each financial year is regularly being submitted to the UPPCB/MPPCB, MoEF regional offices at Bhopal & Lucknow and also being uploaded on company website.

5.	The proponent shall abide by all the commitments and recommendations made in the EIA/EMP report, presentation to the EAC and also the issues raised during Public Hearing.	The project proponent will abide by all the commitments and recommendations made in the EIA/EMP report, presentation to the EAC.
6	The proponent is required to obtain all necessary clearances/approvals that may be required before the start of the project. The Ministry or any other competent authority may stipulate any further condition for environmental protection.	The project abides by this condition
7	The Proponent shall setup an Environment Audit cell with responsibility and accountability to ensure implementation of all the EC Conditions.	The project has well established environmental cell with responsibility and accountability to ensure compliance of EC conditions.
8	Concealing factual data or submission of false/fabricated data and failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract action under the provisions of Environment (Protection) Act, 1986.	The project abides by this condition
9	The above conditions will be enforced inter-alia, under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986 and the Public Liability Insurance Act, 1991 along with their amendments and Rules and any other orders passed by the Hon'ble Supreme Court of India/High Courts and any other Court of Law relating to the subject matter. The proponent shall ensure to undertake and provide for the costs incurred for taking up remedial measures in case of soil contamination, contamination of groundwater and surface water, and occupational and other diseases due to the mining operations.	The project proponent is committed to enforce the provisions of Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986 and the Public Liability Insurance Act, 1991 along with their amendments and Rules and any other orders passed by the Hon'ble Supreme Court of India/High Courts and any other Court of Law. The project is committed to provide the cost incurred for taking up remedial measures in case of soil contamination, contamination of groundwater and surface water, and occupational and other diseases due to the mining operations.
10	Any appeal against this environmental clearance shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.	The project abides by this condition.
11	This EC is in supersession to the earlier EC granted to the project vide letter No.J-11015/255/2006-IA.II (M) dated 10 th April, 2007 for 10 MTPA in an area of 1640 ha.	The project abides by this condition.

COMPLIANCE AGAINST CONDITIONS MENTIONED IN LETTER NO.J-11015/ 255 / 2006
- IA.II(M) FROM MOEF&CC, NEW DELHI DTD.10.04.2007

S.N.	Conditions	Compliance Status
2 A	Specific Conditions	
(i)	No mining shall be carried out in the forest land for which forestry clearance has not been obtained.	The required total forest land clearances has been granted for 664 Ha in UP state (8-298/87-FC dated 30.07.1990) and for 180 Ha in MP state (8-85/2005-FC dtd. 14.09.2010). Project is committed to carry out mining in the forest land only for which forestry clearance has been obtained.
(ii)	Mining shall be carried out as per statute at a safe distance from the Ballia Nallah.	Mining is being carried out as per statute at a safe distance from the Ballia Nallah.
(iii)	Top soil of 2.56 M M3 shall be stacked properly with proper slope at earmarked site(s) and should not be kept active and shall be used for reclamation and development of green belt .	Top soil is regularly being used for spreading on finalised overburden dumps.
(iv)	OB generated shall be stored in two external waste dump of 258 ha, and a maximum height of 90m, consisting of 3 benches of 30 m each, which will be stabilised with plantation and the ultimate slope of the dump shall not exceed 280, Monitoring and management of reclaimed dumpsite should continue until the vegetation becomes self-sustaining. Compliance status should be submitted to the Ministry of Environment & Forest and its Regional office located at Lucknow on an yearly basis. The entire OB will be rehandled at the time of mine closure, into the decoaled void.	The height and width of benches in OB dumps are maintained within permissible limits and wherever possible stabilised with plantation. The external as well as internal dumps have not achieved its projected height (500m above MSL). Back filling and concurrent reclamation is a continuous process. Approx. 194.5 Ha OB dump area has been reclaimed upto 31.03.2023 by plantation through UP Forest deptt. The ultimate slope of the dump will not exceed 280. Monitoring and management of reclaimed dump site is continued. The compliance status is being regularly submitted to the Ministry of Environment & Forest, Regional office located at Lucknow & Bhopal.
(v)	This (v) point is not mentioned in the MOEF letter.	Not applicable.
(vi)	Catch drains and siltation ponds of appropriate size should be constructed to arrest silt and sediment flows from soil, OB and mineral dumps. The water so collected should be utilised for watering the mine area, roads, green belt development, etc. The drains should be regularly desilted and maintained properly. Garland drains (size, gradient and length) 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 site.	As per design, there are different types of structures implemented as per the suitability of the ground condition. <ol style="list-style-type: none"> 1. The retaining wall of total length of 4.150 KM has been constructed. Retaining walls will be further constructed as per requirement as mine progresses. 2. Garland drains of a total length of 7.8 km along both the east and west dumps put together as well as quarry are provided in the lease area. 3. Smooth draining of surface water along

R

Sump capacity should also provided adequate retention period to allow proper settling of silt material .

haul/approach road is made possible by implementing catch drains, which are surface drains to intercept, collect and lead the flow of water in order to prevent water inrush on road and other related infrastructure facilities and are designed as per the rainfall density and elevational gradient of the area. Catch drains of appropriate type, length and dimensions with a total length of 3.320 Km have been provided, which is regularly being desilted.

4. Water so collected is being treated in ETP and reused in watering the mine area, roads, green belt development, etc
5. There are three mine sumps viz., S-1 at eastern section as well as S- 2A and S-3 at western section. Both S-1 and S-3 sumps are being utilized as surface water source for mining related activities. The mine sump water after proper settlement of silt and sediments is being pumped to designated locations within mine lease to be used for dust suppression and other related uses.
6. **Silt Settling Pond:-** Settling ponds are regarded as one of the key structures in the surface water management having the function of retaining the silt and sediments from contaminated water mainly emanating from infrastructure area such as CHP, OB dumps, railway sidings, stockyard, etc.

(vii) Dimension of the retaining wall at the toe of the dumps and OB benches within the mine to check run- off and siltation should be based on the rainfall data.

Dimension of the retaining wall are based on the rainfall data. Height of retaining wall varies from 2 m to 4m and width varies from 2.5 to 3m depending on the site conditions.

(viii) Crushers (present and additional) at the CHP should be operated with high efficiency bag filters, water sprinkling system should be provided to check fugitive emissions from crushing operations, conveyor system, haulage roads, transfer points etc.

Khadia Project is equipped with two CHPs (04 MTY and 06 MTY capacity)
Coal Handling Plant of 04 MTY capacity is equipped with Cyclone type dust extractor, automatic water sprinklers at crusher point and fixed water sprinklers at transfer points of CHP. Coal Handling Plant of 06 MTY is equipped with gyratory crusher, which is fully enclosed system, automatic water sprinkler system at

		<p>crusher unloading point and Dry Fog Dust Suppression System at transfer points. Coal is being transported from crusher to Silo through enclosed conveyor belts. For water sprinklers at haulage road, mobile water sprinkling is being done. Fixed Water Sprinklers are also provided near coal yard no.1. In addition to this, one no. of fixed fog cannon is also deployed at coal yard no. 1.</p>
(ix)	Drills should be wet operated only.	Drills are either wet operated and/or are provided with highly effective dust extractors, guards & dust collectors.
(x)	Controlled blasting should be practiced with use of delay detonators and only during day time. The mitigative measures for control of ground vibrations and to arrest the fly rocks and boulders should be implemented.	Controlled blasting is practiced with use of delay detonators in between 1:00 pm to 2:00 pm. The ground vibrations are regularly monitored and kept controlled. Fly rocks are checked and blasting shelters are used.
(xi)	A progressive afforestation plan shall be implemented covering a total area of not less than 1222 ha, which includes reclaimed external OB dump (258 ha), backfilled area (808 ha) along ML boundary, along roads and infrastructure green belt (156 ha), along vacant land and in colony by planting native species in consultation with the local DFO / Agriculture department. The density of the trees should be around 2500 plants per ha.	As per mine plan of 15 MTPA, out of total 1640 Ha lease hold area, plantation will be done in around 1378 Ha. Plantation is continuously being done through UP forest department. In FY 2022-23, plantation is being done on 33 Ha of overburden dump area and 0.5 Ha of Miyawaki afforestation on plain area.
(xii)	Of the excavated area an area of 808 ha shall be backfilled and reclaimed with plantation and the balance 39 ha of the decoaled void shall be converted into a water reservoir, the higher benches of which shall be gently sloped and stabilised by plantation / afforestation by planting native plant species in consultation with the local DFO / Agriculture Department. The density of the trees should be around 2500 plants per ha.	Back filling and concurrent reclamation is a continuous process. Approx. 194.5 Ha OB Dump area has been reclaimed upto 31.03.2023 by plantation through UP Forest deptt. The density of the plants is kept around 2500 plants/ha. Formation of water reservoir will be taken care at the time of mine closure.
(xiii)	The company shall obtain approval of CGWA/ CGWB Regional Office for use of ground water if any, for mining operations, Sanction of the competent authority shall be obtained for use of water from the integrated water supply Scheme of the G.B. Pant Sagar.	Application for NOC has already been made through application no. 21-4/1269/MP/MIN/2022 dated 24.03.2022. The water supplying unit IWSS has obtained permission letter no. 649-Cu-11 / NTPC / 79 dated 13.03.1979 from Rihand reservoir of the G.B.Pant Sagar to draw raw water.
	Regular monitoring of ground water	Regular monitoring of ground water level and

(xiv)	level and quality should be carried out by establishing a network of existing wells and construction of new piezometers. 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.	quality is carried out piezometers and observation wells. Reports are regularly being submitted to the regional offices of MoEF & CPCB. Construction of 6 piezometers at Khadia Project has been completed in Feb.'2016.
(xv)	The company shall put up artificial ground water recharge measures for augmentation of ground water resource. The project authorities should meet water requirement of nearby village(s) in case the village wells go dry due to dewatering of mine.	The mine workings are on hilly terrain. Mine & rain water is collected in sufficient capacity in mine sump for ground water recharge. The rain water harvesting is being done at 07 places including administrative building (GM office). Sufficient numbers of hand pumps in nearby villages (Ambedkar Nagar, Sabji Market, Khadia village etc) have been provided. The ground water level & quality of nearby areas is regularly being monitored and report submitted to MOEF regional offices at Bhopal & Lucknow. In case the village wells go dry, water requirement of nearby village(s) shall be taken care of.
(xvi)	Sewage treatment plant should be installed in the existing colony. ETP should also be provided for workshop and CHP wastewater to ensure that the total waste water of 3190 cum/d being discharged from the mine conforms to prescribed standards for discharge.	Sewage Treatment Plant (1.5 MLD) in colony and Effluent Treatment Plant (38 MLD) in mines are functioning efficiently. Mine water, Workshop and CHP waste water are being treated at ETP and the treated water is being reused in mine. The spillage/ discharge conforms to MOEF gazette Notification No. GSR 742(E) dtd. 25.09.2000 standards for Coal mines.
(xvii)	The project authorities shall carry out a study for zero discharge from NCL mines by considering various options for using excess treated effluents including artificial recharge and the report on the same shall be submitted to this ministry within six months of issue of this clearance letter.	Mine effluent is being treated in Effluent Treatment Plant (ETP) and reused in dust suppression, haul road sprinkling, green belt development, firefighting, machinery washing etc. In this regard, a study has also been conducted through IIT-BHU. An STP is also operative at Khadia Area for treatment of domestic sewage and treated water is being reused in horticulture.
(xviii)	Besides carrying out regular periodic health check-up of their workers, 10% of the workers identified from work force engaged in active mining operations shall be subjected to health check-up for occupational diseases	The periodical health checkup of more than 20% mine workers is being done annually at company hospital for compliance of the provisions of The Mines Rules, 1955.

	and hearing impairment, if any, through an agency such as NIOH, Ahmedabad within a period of two years and the results reported to this Ministry and to DGMS.													
(xix)	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 .	Digital processing of the entire lease area using remote sensing technique is done regularly by CMPDIL Ranchi & its report are regularly sent to MOEF, New Delhi, Regional office at Bhopal & Lucknow. Latest report for the year 2021, published in March 2022 has also been uploaded on website of NCL, www.nclcil.in.												
(xx)	A final mine closure plan along with details of corpus fund should be submitted to the Ministry of Environment & Forest within one year for approval.	A mine closure plan for 15 MTPA capacity has been prepared and approved by NCL board. Copy of the mine plan has been uploaded on website of MoEF&CC https://parivesh.nic.in/ during application for EC.												
(xxi)	Consent of operate shall be obtained before expanding mining operations.	<p>Khadia Project has obtained CTO from both UPPCB and MPPCB under Air & Water Act for enhanced production. The details of CTO are as follows.</p> <table border="1"> <thead> <tr> <th>Sl. No.</th> <th>SPCB</th> <th>Consent No.</th> <th>Validity of consent</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>MPPCB</td> <td>AW-57297 dated 28.12.2022</td> <td>31.12.2023</td> </tr> <tr> <td>2</td> <td>UPPCB</td> <td>166971 issued on 12.12.2022</td> <td>31.12.2024</td> </tr> </tbody> </table>	Sl. No.	SPCB	Consent No.	Validity of consent	1	MPPCB	AW-57297 dated 28.12.2022	31.12.2023	2	UPPCB	166971 issued on 12.12.2022	31.12.2024
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B) General Conditions

(i)	No change in mining technology and scope of working should be made without prior approval of the Ministry of environment and Forests.	Env. Clearance letter no. J-11015/255/2006-IA.II(M) dtd. 27.07.2022 has been issued from MOEF for Khadia Expansion Project (15MTY). No change in mining technology and scope of working will be made without prior approval of the Ministry of environment and Forests.																															
(ii)	No change in the calendar plan including excavation, quantum of mineral coal and waste should be made.	<p>No change in the calendar plan including excavation & quantum of mineral coal will be made.</p> <table border="1"> <thead> <tr> <th rowspan="2">Year</th> <th colspan="3">Coal Production (in Million T)</th> </tr> <tr> <th>In UP</th> <th>In MP</th> <th>Total</th> </tr> </thead> <tbody> <tr> <td>2015-16</td> <td>2.325</td> <td>4.410</td> <td>6.735</td> </tr> <tr> <td>2016-17</td> <td>3.453</td> <td>2.553</td> <td>6.006</td> </tr> <tr> <td>2017-18</td> <td>5.163</td> <td>3.637</td> <td>8.8</td> </tr> <tr> <td>2018-19</td> <td>6.958</td> <td>4.442</td> <td>11.4</td> </tr> <tr> <td>2019-20</td> <td>8.302</td> <td>4.881</td> <td>13.183</td> </tr> <tr> <td>2020-21</td> <td>7.8905</td> <td>6.1095</td> <td>14.00</td> </tr> </tbody> </table>	Year	Coal Production (in Million T)			In UP	In MP	Total	2015-16	2.325	4.410	6.735	2016-17	3.453	2.553	6.006	2017-18	5.163	3.637	8.8	2018-19	6.958	4.442	11.4	2019-20	8.302	4.881	13.183	2020-21	7.8905	6.1095	14.00
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		2022-23	9.730	5.269	15.00
(iii)	Four ambient air quality monitoring stations should be established in the core zone as well as in the buffer zone for SPM, RPM, SO ₂ and NO _x 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 ambient air quality monitoring stations are established in core zone, and four ambient air quality monitoring stations are established in buffer zone for SPM, RPM, SO ₂ and NO _x monitoring as per GSR 742(E) dt. 25.09.2000 and parameters are within permissible limit.			
(iv)	Fugitive dust emissions (SPM and RPM) from all the sources should be controlled 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.	Water spraying on haul roads is being done through dept. and outsourcing water sprinklers. Water sprinkling on transfer points is done by fixed water sprinklers. Besides this, currently two nos. of truck mounted fog cannon and two nos. of road sweeping machines are deployed at Khadia Area. Additionally, one no. of fixed fog cannon is also operational at Khadia Area, NCL and Air quality of area is regularly being measured by CMPDIL.			
(v)	Data on ambient air quality (SPM, RPM, SO ₂ and NO _x) should be regularly submitted to the Ministry including its Regional office Bhopal and to the State Pollution Control Board and the Central Pollution Control Board once in six months.	Ambient air quality data (SPM, RPM, SO ₂ , NO _x , heavy metals) is being regularly submitted to the MOEF/SPCB/CPCB once in six months.			
(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.	Noise pressure level is maintained below 85 dB(A) in the work environment. Ear plugs / muffs are regularly being distributed among employees engaged in comparatively high noise areas.			
(vii)	Industrial waste water (workshop and waste water from the mine) should be properly collected, treated so as to conform to the standards prescribed under GSR 422 (e) dated 19th May 1993 and 31st December 1993 or as amended from time to time before discharge. Oil and grease trap should be installed before discharge of workshop effluents.	Industrial waste water (workshop, CHP and waste water from the mine) is properly collected and treated at ETP (38 MLD capacity) and the treated water conform to the prescribed standards.			
(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.	Vehicular emissions are kept under control by regular maintenance of vehicles and are regularly monitored. Major coal transport is made through MGR railway system. Sometimes vehicles are also used for transporting the mineral and are optimally			

		loaded and kept covered.
(ix)	Environmental laboratory should be established with adequate number and type of pollution monitoring and analysis equipment in consultation with the state pollution control / board.	A centrally located Environmental laboratory of CMPDIL is working for all mines of NCL.
(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 programme of the workers should be undertaken periodically to observe any contractions due to exposure to dust and to take corrective measures, If needed .	Protective respiratory devices, training, information on safety and health aspects are regularly provided. Besides occupational health check of 20% mine workers / year, the company has opted ISO 45001:2018 and obtained certification for Occupational Health and Safety Assessment Series for it's all the coal mines in NCL.
(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 Area level, the Environment Cell is headed by the Staff Officer(Mining) who is directly reporting to the General Manager, Khadia Project. At Northern Coalfields Limited H.Qtrs. a full-fledged Environment Management Deptt. is headed by the General Manager (Environment) under the control of the Director (Tech./P&P) who directly reports to the CMD, NCL.
(xii)	The fund 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 .	New cost code has been generated in this regard and fund for environmental protection measures has been earmarked. Yearwise expenditure in environmental statement is being reported to MoEF/SPCBs every year
(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 .	The Project authorities are always in full cooperation to the Regional Office(s) of MoEF located at Lucknow & Bhopal by furnishing the requisite data / information / monitoring reports regularly.
(xiv)	A copy of the environmental clearance letter shall be marked to concerned panchyat / local NGO, If any, from whom any suggestion / representation has been received while processing the proposal .	The copy of the environmental clearance letter has been submitted to concerned Panchayats, Municipal corporation and local administration. The environmental clearance letter can also be seen at company website www.nclcil.in .
(xv)	State Pollution Control Board should display a copy of the clearance letter in the Regional Office, District	The copy of the EC letter has been provided to the offices of MPPCB and UPPCB both. The EC letter was also displayed at the

	in the Regional Office, District Industry Centre and Collector's office / Tehsildars Office for 30 days .	The EC letter was also displayed at the Regional Office, District Industry Sector and Collector's Office/Tehsildar's Office for more than 30 days.
(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 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 .	Advertisement regarding expansion of the project from 14 MTY to 15 MTY has been published in four local newspapers, details of which are as follows: <ol style="list-style-type: none">1. Vindhya Bharat, Rewa 31.07.20222. Hindustan, Varanasi 31.07.20223. Aaj, Varanasi 29.07.20224. Dainik Bhaskar, Singrauli- 29.07.2022

Anand.
26/5/23
General Manager
Khadia Area, NCL
[Signature]