

Northern coalfields Limited  
Dudhichua Project

**Point wise compliance report of conditions imposed by Ministry of Environment & Forests in Environmental clearance of Dudhichua Opencast Coal Mine Project (expansion in production from 12.5 MTPA to 15.5 MTPA) vide letter No. J-11015/381/2008-IA.II(M) dtd. 10th December 2008.**

Sl. n o .	Conditions	Compliance report
A.	<b><u>SPECIFIC CONDITONS</u></b>	
(i)	<b>No mining shall be carried out in the forest land for which forestry clearance has not been obtained.</b>	<b>Forestry clearances granted for 194.78 ha. In M.P. no.8-13/93-FC(VoIII) Dt. 17/11/2005 &amp; For 555 ha. Land in U.P. state vide Letter no.8-298/87-FC Dt. 30/07/1990.</b>
(ii)	<b>Topsoil shall be stacked properly with proper slope at earmarked site (s) and shall not be kept active and shall be used for reclamation and development of green belt</b>	<b>Top soil (soil &amp; sandy soil) is available in patches which is used for reclamation of dumps. Esat (5ha.) &amp; West (5ha.) section earmark place is fixed for staking of top soil.</b>
(iii)	<b>A total of 134 Mm<sup>3</sup> of OB generated which has been stored in the two existing external OB dump of 152 ha. There shall be no external OB dumping in the existing external OB dumps which shall be stabilized with plantation and reclamation completed by 2010. The balance 1030.44 Mm<sup>3</sup> of OB generated shall be only backfilled in to the decaled void of 748 ha which is planned for a max height of 90m from ground level and the ultimate slope of the dump shall not exceed 28°. Slope stability studies shall be undertaken before increasing the height of the internal dump beyond</b>	<b>O.B. Dump height is maintained as per approved EMP. External O.B. Dump and Internal O.B. Dump have been stabilized with plantation. The ultimate slope of external dump shall be made to 28° at the time of closure of mine. Slope stability studies shall be carried out by out side agency before increasing the height of the internal dump beyond 90m. Reclaimed OB dump sites are regularly monitored. The latest six monthly monitoring report in the format shall be sent to MOEF-Regional Offices Lucknow &amp; Bhopal from Dudhichua Project within week.</b>

	<p>90m and prior approval of MOEF obtained. Monitoring and management of reclaimed dumpsite shall continue until the vegetation becomes self-sustaining. Compliance status shall be submitted to the Ministry of Environment &amp; Forests and its Regional office located at Bhopal on yearly basis.</p>	
(iv)	<p>Catch drains and siltation ponds of appropriate sizes shall be constructed to arrest silt and sediment flows from soil, OB and mineral dumps. The water so collected should be utilized 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. Sump capacity should also be provided adequate retention period to allow proper settling of silt material.</p>	<p>Considering the water &amp; silt quantity, Catch drains &amp; Siltation ponds have been properly designed &amp; constructed. Collected water is used for sprinkling on haul roads &amp; in CHP for dust suppression. Desalting of drains is done every year. Garland drains and sumps are properly designed keeping 50% safety margin over and above the peak sudden rainfall and maximum discharge in the area adjoining the mine site. Sump has adequate capacity to allow adequate retention period for collected water and allow proper settling of silt material. 1000 RM Gabion Wall was constructed in a year 2014-15.</p>
(v)	<p>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.</p>	<p>Retaining wall is designed &amp; constructed after due consideration of rainfall data.</p>
(vi)	<p>Crusher at CHP shall 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.</p>	<p>In CHP Crusher dust extractor and mist spray system for dust suppression is used.</p>
(VII)	<p>The entire coal of 43000 TDP shall be transported by MGR with silo loading</p>	<p>Entire coal is transported by MGR/Railways with silo loading facility</p>

	<b>facility only There shall be no mineral transportation by road.</b>	<b>only.</b>																					
<b>(viii)</b>	<b>Major approach roads and haul roads shall be black topped.</b>	<b>All approach roads are black topped and permanent haul roads are WBM.</b>																					
<b>(ix)</b>	<b>Drills shall be wet operated only.</b>	<b>High capacity drills are designed for dry drilling however, all drills are provided with highly effective dust extractors, guards &amp; dust collectors and same is maintained in operation Drill is fitted with NVE dust control system DGMS approved.</b>																					
<b>(x)</b>	<b>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 shall be implemented.</b>	<b>Controlled blasting with use of delay detonators is already in practice and blasting is done between 1 PM to 2.30 PM. Charging of holes and total charge per blast is maintained to control ground vibration within permissible limit for which the same is monitored frequently.</b>																					
<b>(xi)</b>	<b>A progressive afforestation plan shall be implemented covering a total area of not less than 1105 ha, which includes reclaimed external OB dump and backfilled area (900 ha), along ML boundary, along roads and infrastructure, green belt (160 ha), along undisturbed area (45 ha) and in colony by planting native species in consultation with the local DFO/Agriculture Department. The density of the trees shall be around 2500 plants per ha.</b>	<p><b>Progressive afforestation is done as per programme given in EMP. In future also the condition given shall be implemented.</b></p> <table border="1"> <thead> <tr> <th><b>Year</b></th> <th><b>Area(Ha.)</b></th> <th><b>Nos of plant</b></th> </tr> </thead> <tbody> <tr> <td>2012-13</td> <td>31</td> <td>108000</td> </tr> <tr> <td>2013-14</td> <td>40</td> <td>132000</td> </tr> <tr> <td>2014-15</td> <td>63.9</td> <td>177250</td> </tr> <tr> <td>2015-16</td> <td>20</td> <td>70000</td> </tr> <tr> <td>2016-17</td> <td>20</td> <td>70000</td> </tr> <tr> <td><b>Total</b></td> <td></td> <td></td> </tr> </tbody> </table>	<b>Year</b>	<b>Area(Ha.)</b>	<b>Nos of plant</b>	2012-13	31	108000	2013-14	40	132000	2014-15	63.9	177250	2015-16	20	70000	2016-17	20	70000	<b>Total</b>		
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<b>(xii)</b>	<b>Of the excavated area, major part of the decoaled void shall be backfilled and reclaimed with plantation and the balance 63 ha of the decoaled void being converted into a water reservoir shall be gently sloped along the higher benches and stabilized by plantation/afforestation by planting native plant species in consultation with the local DFO/Agriculture Department. The</b>	<b>Major part of the decoaled void is being backfilled and reclaimed with plantation after achieving the planned height of Dump. Balance 63 ha of the decoaled void to be converted into a water reservoir shall be gently sloped along the higher benches and stabilized by plantation/ afforestation at the time of closure of mine.</b>																					

	<b>density of the trees shall be around 2500 plants per ha.</b>	
<b>(xiii)</b>	<b>The Company shall obtain approval of CGWA/CGWB Regional Office for use of groundwater 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.</b>	<b>Ground water is presently not used for mining operations. Sanction of competent authority for use of water from G.B.Pant Sagar (Rihand) has been obtained by NCL,the then Central Coalfields Ltd. vide No. 649-CU-II/NTPC/79 dtd. March, 12/13.1979 (copy enclosed)</b>
<b>(xiii)</b>	<b>Regular monitoring of ground water level and quality shall 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 shall be submitted to the Ministry of Environment &amp; Forests and to the Central Pollution Control Board quarterly within one month of Monitoring.</b>	<b>Monitoring of ground water level is carried out in four seasons, by establishing a network of dug wells. Proposal for construction of new piezometers is under consideration. Quality of water of aforesaid dug wells is checked in the month of May. Result of quantity and quality are enclosed herewith.</b>
<b>(xiv)</b>	<b>The Company shall put up artificial groundwater recharge measures for augmentation of ground water resource. The project authorities shall meet water requirement of nearby village(s) in case the village wells go dry due to dewatering of mine.</b>	<b>Two ponds, one in south east side and another on north east side has been constructed for ground water recharging. Besides above three ground water recharging pits have been constructed at CGM Office for rain water harvesting. No villages/ well fall within the radius of influence of Dudhichua Project.</b>
<b>(xv)</b>	<b>Sewage treatment plant installed in the existing colony shall be of adequate capacity and CHP. The total wastewater of 6940 m<sup>3</sup>/d being discharged from the mine shall be treated to conform to prescribed standards for discharge.</b>	<b>2.00 MLD capacity STP has already been constructed and maintained in operation for treatment of domestic sewage from colonies. 30.00 MLD capacity ETP is also in operation for treatment of effluent generated from workshop &amp; CHP. The treated water conforms to the prescribed standards. Most of the treated water except</b>

		rainy season is reused for sprinkling on haul roads & in CHP for dust suppression.																																
(xvi)	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.	Proposal for carrying out study for zero discharge from Dudhichua Opencast Project has been sent to Head Qtr., NCL to get the study done from suitable agency. As soon as study will be completed, a report thereof shall be submitted to the Ministry.																																
(xvii)	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 agency such as NIOH, Ahmedabad within a period of two years and the results reported to this Ministry and DGMS.	Regular periodic health check up of all employees in the form of Periodic Medical Examination (PME) is carried out. <table border="1"> <tr> <td colspan="4">PME done during last 05 year &amp; up to Aug 2014</td> </tr> <tr> <th>Sl. no.</th> <th>Year</th> <th>Target</th> <th>Achieved</th> </tr> <tr> <td>1</td> <td>2009</td> <td>434</td> <td>469</td> </tr> <tr> <td>2</td> <td>2010</td> <td>555</td> <td>555</td> </tr> <tr> <td>3</td> <td>2011</td> <td>520</td> <td>531</td> </tr> <tr> <td>4</td> <td>2012</td> <td>550</td> <td>621</td> </tr> <tr> <td>5</td> <td>2013</td> <td>617</td> <td>623</td> </tr> <tr> <td>6</td> <td>2014 Sept</td> <td>617</td> <td>506</td> </tr> </table>	PME done during last 05 year & up to Aug 2014				Sl. no.	Year	Target	Achieved	1	2009	434	469	2	2010	555	555	3	2011	520	531	4	2012	550	621	5	2013	617	623	6	2014 Sept	617	506
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(xviii)	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 MOEF and its Regional Office at Bhopal.	Land use maps, based on satellite imagery is prepared once in 03 years through CMPDI. Remote sensing map of Singrauli Coalfields prepared by CMPDI in March 2012 has already been submitted to MoEF and its Regional Office at Bhopal with the EMP Report.																																
(xix)	R&R for the remaining PAPs shall be completed by 2012-13. The R&R will be based on norms not less than that stipulated under the National R&R Policy/State Govt./CIL whichever is	R&R for the remaining PAPs shall be completed by 2012-13. The R&R is done based on CIL norms. The socio-economic status of the displaced people shall be monitored and report shall be submitted to																																

	<p>higher. Monitoring of impact of implementation of various activities &amp; measures outlined in R &amp; R &amp; CSR over the life of project shall be based on key indices of UNDP human development report using pre project status of socio economic &amp; human development as the baseline &amp; report submitted once every five years to MOEF Regional Office Bhopal</p>	<p>the MoEF Regional Office, Bhopal once in every years.</p>
(xx)	<p>A Final Mine Closure Plan along with details of Corpus Fund shall be submitted to the Ministry of Environment &amp; Forests within one year for approval.</p>	<p>The mine closure plan With adequate fund provisions (Rs 131.25 Crs)duly approved by NCL board have been submitted to MoC, MoEF, New Delhi &amp; I Copy each to MPPCB, UPPCB in April 12. As per CIL Policy, an amount of Rs. 75000 per Ha. For technical reclamation and Rs. 75000 per Ha. For Biological reclamation is deposited to generate “Corpus Fund” for mine closure purpose in above fund Rs.8,16,89,000 have been generated up to 30<sup>th</sup>Sept 2014. Cumulative till date Rs 44,90,54,601</p>
<b>B</b>	<b><u>GENERAL CONDITIONS</u></b>	
(i)	<p>No change in mining technology and scope of working shall be made without prior approval of the Ministry of Environment and Forests.</p>	<p>Shall be complied.</p>
(ii)	<p>No change in the calendar plan including excavation, quantum of mineral coal and waste shall be made.</p>	<p>Shall be followed</p>

(iii)	<p>Four ambient air quality monitoring stations shall be established in the core zone as well as in the buffer zone for monitoring SPM, RPM, SO<sub>2</sub> and NO<sub>x</sub> &amp; heavy metal such as Hg, Pb, Cr, As etc. 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.</p>	<p>Have already been implemented. Location of the station have been fixed on the based on metrological data &amp; topographical feature, Ambient air quality is monitored as per Gazette notification no. G.S.R. 742(E) Dated.25/09/2008.</p>
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(iv)	<p>Fugitive dust emissions (SPM and RPM and heavy metals such Hg, Pb, Cr, As etc) from all the sources shall be controlled regularly monitored and data recorded properly. Water spraying arrangement on haul roads, wagon loading, dump trucks (loading and unloading) points shall be provided and properly maintained.</p>	<p>Have already been implemented. For testing of Hg Samples sent to ITRC Lucknow.</p>
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(v)	<p>Data on ambient air quality (SPM, RPM, SO<sub>2</sub> &amp; NO<sub>x</sub> and heavy metal such as Hg, Pb, Cr, As etc) shall 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.</p>	<p>Ambient air quality data(SPM, RPM, SO<sub>2</sub> &amp; No<sub>x</sub>) for Qtr. Ending March 2014 is enclosed here with.</p>
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Station code/Name	Category	SPM	RPM	SO <sub>2</sub>	NO <sub>x</sub>
DA1-OVP	Industry	331	121	20	34
DA2-CS	Industry	319	115	19	31
DA3-SSH	Industry	281	102	17	28
DA4-PH	Industry	288	104	19	31

			t.				
		DA5-KV	Resid.	120	41	14	24
		DA6-B&C Col.	Resid.	119	41	14	24
		AAP Limits	Industrial	430	215	80	80
		AAP Limits	Resid.	140	60	60	60
		Microgram per cubic meter					
(vi)	Adequate measures shall 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. shall be provided with ear plugs/muffs.	Adequate measures are taken. Ear plugs/ Ear muffs are provided to employees wherever found necessary.					
		Item Name	Received Qty	Issued Qty	Balance		
		Earplug	Nil	446	649		
(vii)	Industrial waste water (workshop and waste water from the mine) shall be properly collected, treated so as to conform to the standards prescribed under GSR 422(E) dated 19th May, 1993 and 31 <sup>st</sup> December, 1993 or as amended from time to time before discharge. Oil and grease trap shall be installed before discharge of workshop effluents.	Already one ETP is maintained in operation for treatment of waste water from workshop, CHP & mine. Quality of treated water of ETP is monitored fortnightly by CMPDI and monthly by SPCB/ MOEF recognized laboratory and all parameters conform to the standards prescribed under GSR 422(E) dated 19 <sup>th</sup> May, 1993 and 31 <sup>st</sup> December, 1993.					
(viii)	Vehicular emissions shall be kept under control and regularly monitored. Vehicles used for transporting the mineral shall be covered with tarpaulins and optimally loaded.	Being followed.					
(ix)	Environmental laboratory shall be established with adequate number and	Environmental laboratory is already set up at CMPDI with all facilities and monitoring					



	<b>type of pollution monitoring and analysis equipment in Consultation with the State Pollution Control Board.</b>	<b>&amp; analysis for Dudhichua O.C.P. is carried out by them.</b>
<b>(x)</b>	<b>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. 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.</b>	<b>Dust masks are provided to employees working in dusty areas and adequate training on safety and health is imparted and Occupational health surveillance programme has already been implemented and Periodic Medical Examination after every 05 years for all the employees are done at our central hospital.</b>
<b>(xi)</b>	<b>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.</b>	<b>Environmental Management Cell has already been established at Head Qtr. NCL and at Project Level.</b>
<b>(xvi)</b>	<b>The Project authorities shall advertise at least in two local news papers 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 &amp; Forests at <a href="http://envfor.nic.in">http://envfor.nic.in</a>.</b>	<b>Complied.</b>
<b>3</b>	<b>The Ministry or any other competent authority may stipulate any further condition for environmental protection.</b>	<b>Accepted.</b>
<b>4</b>	<b>Failure to comply with any of the</b>	<b>Accepted.</b>

	<b>conditions mentioned above may result in withdrawal of this clearance and attract the provisions of the Environment (Protection) Act, 1986.</b>	
<b>5</b>	<b>The above conditions will be enforced inter-alia, under the provisions of the Water (Prevention &amp; Control of Pollution) Act, 1974, the Air (Prevention &amp; Control of Pollution) Act, 1981, the Environmental (Protection) Act, 1986 and the Public Liability Insurance Act, 1991 along with their amendments and Rules.</b>	<b>Consent for 15.5 MTPA capacity under the Water (Prevention &amp; Control of Pollution) Act, 1974, the Air (Prevention &amp; Control of Pollution) Act, 1981 is granted by the office of U.P.Pollution Control Board, Lucknow up to 31<sup>st</sup> Dec 2015. Air &amp; water consent from M.P.Pollution Control Board, Bhopal up to 31<sup>st</sup> Dec 2016 has been applied.</b>

**General Manager  
Dudhichua Project**