

EXPANSION OF BALLARPUR OPEN CAST MINE

MOEFClearanceNo.J/1105/145/2007/IA.II(M)Date:18.06.2008

**Expansion of BALLARPUR OPEN CAST MINE Compliance to
Environmental clearanceConditions**

A) Specific Conditions

Sr. No.	Conditions	Compliance																								
i)	Mining shall be carried out as per Statute at a safe distance from the seasonal nallah flowing within / close to the lease boundary.	Mining operation is being carried out as per Statute by keeping a safe distance i.e 160 mtr from seasonal Nallah with due permission from DGMS.																								
ii)	Top soil should be stacked properly with proper slope at earmarked site and should not be kept active and shall be used for reclamation and development of green belt.	Top soil is being stacked at separate dump No. 8 Quantity :- 10.088 MM ³ (till date) During the initial years carpeted over embankment and plantation developed over it. At present, there is no excavation of fresh top soil. The top soil excavated in the recent past has been placed over back filled area at Dump no.- 08 separately which is proposed to be carpeted over the backfilled area in a progressive manner.																								
iii)	There shall be no dumping on OB in the existing or new OB dumps. The entire OB generated over the balance life of mine shall be progressively back filled in to the decoupled voids.	The entire OB excavated is being used for backfilling of the decoaled Area progressively <table border="1" data-bbox="824 1430 1425 1696"><thead><tr><th>Year</th><th>Excav.</th><th>External</th><th>Internal</th></tr></thead><tbody><tr><td>2010-11</td><td>0.945 MM³</td><td>---</td><td>0.945 MM³</td></tr><tr><td>2011.12</td><td>2.741 MM³</td><td>---</td><td>2.741 MM³</td></tr><tr><td>2012-13</td><td>2.246 MM³</td><td>---</td><td>2.246 MM³</td></tr><tr><td>2013-14</td><td>1.475 MM³</td><td>---</td><td>1.475 MM³</td></tr><tr><td>2014-15</td><td>0.755 MM³</td><td>---</td><td>0.755 MM³</td></tr></tbody></table> <p>(upto 30.9.2014)</p>	Year	Excav.	External	Internal	2010-11	0.945 MM ³	---	0.945 MM ³	2011.12	2.741 MM ³	---	2.741 MM ³	2012-13	2.246 MM ³	---	2.246 MM ³	2013-14	1.475 MM ³	---	1.475 MM ³	2014-15	0.755 MM ³	---	0.755 MM ³
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Iv)	The exiting OB dumps which have	There is no external OB dumping. The excavated																								

	<p>been biologically reclaimed shall be monitored and if required stabilized with plantation using native species.</p>	<p>OB is dumped entirely in to the decoaled void. The embankment for protection of mine working has only been constructed with OB as per Statute; The embankment has been stabilized with plantation. The backfilling is in progress. Out of 55.161 mm³ of OB excavated 52.121 mm³ has been accommodated in void. The existing embankment which have been Biologically reclaimed and there after stabilized by plantation of native species i.e Shisham, Karanji, Neem, etc.</p>
V)	<p>Catch drain and situation pound of appropriate size should 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 desisted and maintained properly.</p> <p>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 be also provided adequate retention periods to allow proper settling of site materials.</p>	<p>Catch drain /garland drain of appropriate size have been constructed all around the quarry and OB dump to arrest slit and sediments into natural water source (3.00 m + 1.75/2) x 2.00m . These catch drain /garland drain are cleaned before onset of every monsoon. The sump made at the quarry floor is of size 45 Millon Gallon which collected all the silts & sediments form OB benches through X drainage . The sump capacity is adequate keeping the sudden rainfall. The water thus collected in the sump gets adequate retention time to allow proper setting of suspended materials. The supernatant water is pumped out on surface & fed into surface sedimentation tank of size 28 m x13 m x 2 m for secondary treatment. The treated water from surface sedimentation tank is used for watering the mine area & green belt development</p>
vi	<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 rainfall data.</p>	<p>The external OB dumping has stopped since more than 20 years. All the excavated OB is being dumped inside the quarry void. The external OB dumping was made only in the form of embankment at the initial year more than 20 years back which have been stabilized with</p>

		plantation. As such there is no run off from the embankment. As already started all OB is going into decoaled void, the retaining wall is for OB dump is not required . For OB benches garland drain provided to guide the entire water into mine sump. There is no impact of natural water course.																																
vii	Drills should be wet operated	Drills are wet operated.																																
viii	Controlled blasting shall be practiced with the use of delay detonators. The mitigative measures control of ground vibrations and to arrest the fly rocks and boulders should be implemented	Controlled blasting is being Practiced while blasting as per DGMS permission																																
ix	High efficiency bag filters, water sprinkling system to check fugitive emissions from crushing operations, conveyor system, haulage roads, transfer points, etc shall be installed and operated effectively at all times of operation	To check fugitive emissions water sprinkling/spraying systems have been installed and are operated effectively at all time of operations. The details are as follows: a) Fixed sprinkler – 13 nos at Railway siding & weigh bridge. In addition 10 no.s of fixed sprinklers installed at CHP. b) SIDE CLADDING- All along belt conveyor. c)Transfer point-water spraying d)plantation-112000 nos e) Mobile tanker for haul roads. f) Concrete pavements at Weigh Bridge, CHP.																																
x	An area not less than 93.24 Ha, shall be brought under a forestation which includes reclaimed external OB dump (32.53), backfilled area (60.21 ha), and Vacant/undisturbed areas within the lease and within the township outside by planting native species in consultation with the local DFO/Agriculture Department. The desity of the trees should be around 2500 plants per Ha	Total plantation - OB Dump 112000 Nos- Backfilled Area –Nil, Vacant Land- Nil Plantation :- Existing <table border="1"> <thead> <tr> <th>S. No.</th> <th>Year</th> <th>No. of plantation</th> <th>Area</th> </tr> </thead> <tbody> <tr> <td>1)</td> <td>1993-94</td> <td>48000</td> <td>19.20 Ha</td> </tr> <tr> <td>2)</td> <td>1994-95</td> <td>35250</td> <td>14.10 Ha</td> </tr> <tr> <td>3)</td> <td>2000-01</td> <td>10000</td> <td>4.00 Ha</td> </tr> <tr> <td>4)</td> <td>2002-03</td> <td>5000</td> <td>2.00Ha</td> </tr> <tr> <td>5)</td> <td>2004-05</td> <td>8750</td> <td>3.50 Ha</td> </tr> <tr> <td>6)</td> <td>2009-10</td> <td>5000</td> <td>2.00 Ha</td> </tr> <tr> <td>Tota</td> <td></td> <td>1,12,000</td> <td>44 Ha</td> </tr> </tbody> </table> Proposed 1) 2015-16 22500 9.00 Ha	S. No.	Year	No. of plantation	Area	1)	1993-94	48000	19.20 Ha	2)	1994-95	35250	14.10 Ha	3)	2000-01	10000	4.00 Ha	4)	2002-03	5000	2.00Ha	5)	2004-05	8750	3.50 Ha	6)	2009-10	5000	2.00 Ha	Tota		1,12,000	44 Ha
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		2) 2016-17 <u>7500</u> <u>3.00 Ha</u> Total 30,000 Nos 12.00 Ha Species - Only native species through state Forest Expert Agency.																					
xi	A progressive mine closure plan shall be implemented by reclamation of quarry are of which 32.53 ha shall be backfilled and afforested 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. The balance 29.62 ha of decoaled avoids which is being converted into a water reservoir, shall be gently sloped along the upper benches, terraced and reclaimed with plantation. The outer periphery of the water body shall be fenced	A progressive mine closure is being implemented. Total back filled area on surface - 100.88 ha Progressive backfilling area - 100.88 ha																					
Xii	The company shall obtain approval of CGWA/ CGWB Regional office for use of ground water if any for mining operations.	NO ground water is used for coal extraction. The area does not fall in any critically exploited area as per CGWA. A detailed Hydrogeology report and detailed groundwater monitoring data has been enclosed.																					
Xiii	ETP should be provided for workshop and CHP waste water	ETP has been provided with a capacity of 75 cum /day at workshop.																					
Xiv	Besides Carrying out regular periodic health check up for occupational diseases & hearing impairment if any through an agency such as NIOH Ahmadabad within period of two years and the results reported to this Ministry and to DGMS	<table border="1"> <thead> <tr> <th></th> <th>Contractual</th> <th>Deptt.</th> </tr> </thead> <tbody> <tr> <td>VTC</td> <td></td> <td></td> </tr> <tr> <td>2011</td> <td>35</td> <td>54</td> </tr> <tr> <td>2012</td> <td>35</td> <td>21</td> </tr> <tr> <td>2013</td> <td>22</td> <td>53</td> </tr> </tbody> </table> <p>(Up to Dec2013)</p> <table border="1"> <thead> <tr> <th>PME</th> <th>Contractual</th> <th>Deptt.</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> <td></td> </tr> </tbody> </table>		Contractual	Deptt.	VTC			2011	35	54	2012	35	21	2013	22	53	PME	Contractual	Deptt.			
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Xv	A Final Mine closure plan along with details of corpus final should be submitted years prior to end of mine life to the Ministry of environment & forests RO Bhopal for approval.	Approved by WCL Board and corpus fund deposited in Escrow account		
Xvi	Digital processing of the entire lease are using remote sensing technique should be done regularly once in 3 years for monitoring land use pattern an report submitted to MOEF and its Regional office at Bhubaneshwar.	Already done. Copy attached		
B	General Condition.			
I	No change in mining technology and scope of working should be made without prior approval of the Ministry of Environment and Forests.	No change in Mining technology envisaged.		
ii	No change in the calendar plan including excavation quantum of mineral coal, and waste should be made.	No change in calendar plane envisaged.		
iii	Four ambient air quality monitoring stations should be established in the core zone as well as in the buffer zone for SPM RSPM SO ₂ and NO _x monitoring location of the stations should be decided based on the metrological data, topographical features and environmentally and ecologically sensitive targets in consultation with the state Pollution Control Board.	Four Ambient Air Quality Monitoring Stations are 1.Manager office. 2.SAM office, 3. Substation 4.filter plant As it is in consultation with State pollution control board. It is being monitored by CMPDIL regularly. Quarter ending report is being enclosed.		
Iv	Fugitive dust emissions (SPM, RSM)	Stations of fugitive dust emissions are CHP		

	from all the sources should be controlled regularly monitored and date recorded properly water spraying arrangement on haul roads wagon loading dump truck (loading and unloading)point should be provided and properly maintained.	Railway siding & weigh bridge. Fixed sprinkler a) CHP - 10 Nos b) Railway siding - 11 Nos c) Weigh Bridge – 2 Nos Fugitive dust monitoring is done at 3 stations. 1. CHP 2. Railway siding 3. Weigh bridge									
V	Data on ambient air quality (SPM, RSMP S02 and NOX) should be regularly submitted to the ministry including its Regional Office at Bhopal and to the state Pollution Control Board and the central Pollution control board once in six months.	It is being regular monitored by CMPDIL & quarterly report is submitted regularly to MOEF & MPCB .									
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 of HEMM etc. should be provided with ear plugs muffs.	Regular PME are being done <table border="1"> <tr> <td>2011</td> <td>45</td> <td>100</td> </tr> <tr> <td>2012</td> <td>10</td> <td>55</td> </tr> <tr> <td>2013</td> <td>60</td> <td>150</td> </tr> </table> (Up to Dec2013)	2011	45	100	2012	10	55	2013	60	150
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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 19 the May 1993 and 31 St December 1993 or as amended from time to time before discharge Oil and grease trap should be installed before discharge of workshop effluent	Proper sedimentation tank and ETP is constructed near the mine to control industrial waste etc/ capacity of sediment ion tank = 728 KL & ETP = 75 cum/ day. ETP 15.00x 2.10x1.40 (near diesel filling point) Sedimentation tank 2 nos 27.50x11.50x2.20									
Viii	Vehicular emissions should be kept	Coal transportation vehicle is covered with									

	under control and regularly monitored. Vehicles used for transporting the mineral should be covered with tarpaulins and optionally loaded.	tarpaulins and optimally loaded. Vehicular emissions are kept under control PUC certificate of all light & passenger vehicles area taken.																																	
ix	Environmental laboratory should be established with adequate number and type of pollutions Control Board.	There is a full fledged NABL accredited Env. Laboratory of CMPDIL. The Monitoring is done through this laboratory at fortnightly interval . Presently the mine is procuring a portable testing kit for field monitoring of pH , TDS etc. is being procured to be completed before Mar. 2015.																																	
x	Personal working industry are as should be wear protective respiratory devices and they should be also being provided with adequate training and information on safety and health aspects Occupational health surveillance programmed of the workers should be undertaken periodically to observe any contraction due to exposure to dust and to take corrective measure if need.	<p>The details of Vocational training at Occupational health are submitted below:</p> <table border="1"> <thead> <tr> <th></th> <th>Contractual</th> <th>Deptt.</th> </tr> </thead> <tbody> <tr> <td>VTC</td> <td></td> <td></td> </tr> <tr> <td>2011</td> <td>35</td> <td>54</td> </tr> <tr> <td>2012</td> <td>35</td> <td>21</td> </tr> <tr> <td>2013</td> <td>22</td> <td>53</td> </tr> <tr> <td>(Up to Dec2013)</td> <td></td> <td></td> </tr> <tr> <td>PME</td> <td></td> <td></td> </tr> <tr> <td>2011</td> <td>45</td> <td>100</td> </tr> <tr> <td>2012</td> <td>10</td> <td>55</td> </tr> <tr> <td>2013</td> <td>60</td> <td>150</td> </tr> <tr> <td>(Up to Dec2013)</td> <td></td> <td></td> </tr> </tbody> </table> <p>As per vocational training rules (1966) training and re-training of workmen is mandatory at regular intervals regarding safety aspects of mine working as well as occupational health aspects.</p>		Contractual	Deptt.	VTC			2011	35	54	2012	35	21	2013	22	53	(Up to Dec2013)			PME			2011	45	100	2012	10	55	2013	60	150	(Up to Dec2013)		
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Xi	Separate environmental	Sub Area level																																	

	management cell with suitable qualified person should be set up under the control of a senior executive who will report directly to the head of company	<p>Sr. Manager -1</p> <p>Subordinate Eng. 1</p> <p>Area level</p> <p>Dy. C./ M. (ANO) -1</p> <p>Management (T) -1</p> <p>Subordinate Eng. -1</p> <p>Clerk -1</p> <p>Company Level</p> <p>GM (Env) -2</p> <p>CM (Env) -1</p> <p>Manager -1</p> <p>Clerk -3</p>
xii	The funds remarked for environmental protection measure should be kept in separate account and should not be directed for other purpose. Year wise expenditure should be reported to this Ministry and its Regional Office at Bhopal	<p>Total Capital Expenditure incurred = Rs. 28.88 lacs</p> <p>Total Revenue Expenditure incurred= Rs. 134.90 lacs</p>
xiii	The Regional office of this Ministry located at Bhopal shall monitor compliance of the stipulated condition. The project authorities shall extend full cooperation to the Officers of the Regional Office by furnishing the requisite data information / monitoring reports.	Noted
xiv	A copy of the will be marked to concerned panchayat /local NGO if any from whom any suggestion / representation has been received while processing the proposed	The environment clearance copy has been sent to panchayat but no suggestion is received.
xv	State pollution control board should display a copy of the clearance letter	Noted

	at the Regional office, District industry centre and Collectors office / Tahsildar office for 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 website of the ministry of Environment & Forest at http:// envfor. Nic. In	Copy attached.
xvii.	The ministry of any other competent authority may stipulate any further condition for environmental protection.	Noted
xviii.	Failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract the provisions of the Environment (Protection) Act, 1986	Noted
xix.	The above condition will be enforced inter-alia, under the provisions of the Water (Prevention and control of Pollution) Act, 1974, the Air (Prevention and control of Pollution) Act, 1981, the Environment (Protection) Act, 1986 and the Public liability insurance Act, 1991 along with their amendments and Rules.	Noted