

**APPLICATION**  
**FOR**  
**ENVIRONMENTAL CLEARANCE**  
(Under 7(ii) of EIA NOTIFICATION, 2006 &  
O.M. Dated 19.12.2012 & O.M. dated 07.01.2014)  
**For**  
**EXPANSION**  
**OF**  
**NEW MAJRI UG TO OC MINE**  
**(MAJRI AREA, WCL)**

(One time capacity enhancement of 50% from  
0.8 MTPA to 1.20 MTPA within existing area 479.16 ha)

**Addendum EIA / EMP**



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Accreditation as EIA consultant vide NABET no/EIA/01/12/002 Dt. 31.01.2012  
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**BRIEF  
DESCRIPTION OF  
PRESENT  
SCENARIO OF  
PROJECT, MINING  
PLAN & OTHER  
DETAILS**

## **BRIEF DESCRIPTION OF PRESENT SCENARIO OF PROJECT**

### **1.1 INTRODUCTION**

New Majri UG TO OC MINE of Majri Area is located in Bhadrawati Tehsil of Chandrapur district of Maharashtra and about 135 km south of Nagpur by road. New Majri UG TO OC Mine was planned for 90m depth for the annual target of coal production is 0.8 Mty and peak OB removal is 4.00 Mm<sup>3</sup>/ annum at an average stripping ratio of 3.59 m<sup>3</sup>/te. The Project Report of New Majri UG TO OC Mine has been approved by WCL Board during its 207<sup>th</sup> meeting held on 15.11.2007 for a total capital expenditure of Rs. 295.5646 Crores. The project is a cost plus project, started under agreement with Mahagenco for 0.8 MTPA.

Environment clearance of 0.80 MTPA coal production has been granted by MoEF&CC vide ref no. J-11015/25/2008-IA, II (M) Dt. 18.02.2011 for 0.8MTY within land area of 479.16 Ha.

Mining operations at New Majri (NM) UG TO OC Mine have been started on 30.10.2015. The mine has achieved the targeted coal production of 0.8 MT during the year 2015 -16. Production level of Majri Area is declining year by year due to exhaustion of coal reserves of existing other OC Mines. In order to bridge the gap between the supply and demand of coal and to restore the production level of the area it is proposed to enhance the annual coal production of NMUG TO OC Mine urgently as it has the potential without addition of any capital. Considering this, the mining plan has been prepared and duly approved by WCL board. Based on this approved mining plan, this application u/s 7(ii) of EIA notification 2006 for 50 % enhancement in capacity from 0.80 to 1.20 MTPA within the same leasehold area is being submitted after due certification of existing EC by RO, MOEF&CC, Nagpur.

### **1.2 NEED FOR ENHANCEMENT OF CAPACITY**

Two OC mines, Navin Kunada OCM and Dhorwasa OCM of Majri Area have been closed and the coal reserves of Telwasa OCM & JKOCM will be exhausted within two years. Production By the end of 2018- 19, capacity of the area will be dropped down to 2.6 MTPA. The mine Yekona – II OC mine which is going to be started during

2016-17 would contribute only 0.60MTPA in the coming four years. To uphold the production level of Majri Area it is necessary to ramp up the coal production from NMUG TO OCM and New Majri OC Sector – I (A) and Sector – II (A) Extension Mine of Majri Area. New Majri OC Sector – I (A) and Sector – II (A) Extension Mine was granted environmental clearance for coal production of 2.50MTPA. Due to high stripping ratio New Majri OC Sector – I (A) and Sector – II (A) Extension Mine, the scope of enhancement of coal production is limited. The stripping ratio at NMUG TO OC which is  $3.59 \text{ m}^3/\text{Te}$ . is conducive for enhancement of coal production. Hence it is proposed to obtain Environmental Clearance for enhancement of coal production from 0.8 MPTA to 1.20 MPTA as per MOEF&CC office memorandum vide ref no : J-11015/30/2004-I(A).II(M) dated 07<sup>th</sup> January 2014.

### **1.3 ADVANTAGES /BENEFITS**

Benefits for the enhanced capacity are given below:

1. Gainful utilization of the departmental HEMM system capacity and manpower resources of NMUG TO OC Mine.
2. Augmented production would ensure adequate supply to power plants.

### **1.4 COMMUNICATION**

The Majri railway station, within the area is located about 17 Km from Wardha railway station on the Wardha – Kazipet main branch of Central Railway, The Majri – Wani branch line pass through the central part of New Majri colliery dividing in to two part. The area is at a distance of 140 Km from Nagpur via Warora, connected with Nagpur by all- weather metal road.

### **1.5 PHYSIOGRAPHY AND DRAINAGE**

The Southerly flowing Wardha River demarcate the western boundary of New Majri Colliery area and control the main drainage system. The characteristic level pattern of Naglone block in a North – South trending raised ground in the central part between the altitudes 190Mtr. to 194Mtr. The western part of the raised ground slopes in to Wardha River. The HFL of Wardha River as recorded in the year 1994 is 192.65m.

The Koradi Nallah with its branches and gullies passes through the eastern part of Naglone block and join with Shirna Nallah further to the east in the entire updip side of the Naglone block i.e. the possible quarrable zone is under High Flood Level because of these Nallah flowing through the area the topography in this part varies between 185M to 190M.

## 1.6 GEOLOGY OF THE NEW MAJRI UG TO OC BLOCK

New Majri Colliery is situated in the western limb of the regional anticlinal structure of Wardha Valley coalfields. The geological succession of the block is interpretable from surface and sub-surface data of different formation are given in the following table.

New Majri Colliery area is situated in the Western Limb of the regional anticlinal structure of Wardha Valley Coalfields.

AGE	FORMATION		LITHO LOGY
Recent	Detrital Mantle	-	Black Cotton Soil, Sandy Soil, Kankar etc.
Upper Cretaceous to Eocene	Deccan Trap	-	Basalts
-----UNCONFORMITY-----			
Cretaceous	Lameta	-	Cherty Limestone, Chert, Silicified Sandstone
-----UNCONFORMITY-----			
Upper Permian to Lower Triassic	Kamthi	-	Red, Brown and variegated sandstones, variegated clays and shale bands
-----UNCONFORMITY-----			
Upper to Middle Permian	Motor	-	Medium to fine-grained variegated sandstones, variegated clays and shales
Lower Permian	Barakar	-	Light grey to white sandstone

AGE	FORMATION		LITHO LOGY
			with shale and coal seam
Upper Carboniferous	Talchir	-	Greenish to grey sandstones, siltstones and shale.
-----UNCONFORMITY-----			
Pre-Cambrian	Sullavai (Vindhyan)	-	White light brown quartzitic sandstone conglomerate
	Pakhal (Vindhyan)	-	Grey to pinkish, bluish, limestone and cherts.
-----UNCONFORMITY-----			
Archaens	Metamorphic	-	Gneisses and schists.

#### 1.6.1 STRIKE AND DIP

The strike of the coal seam is towards NNW – SSE and dipping towards WSW. The gradient is varying from 1 in 5 to 1 in 6.

#### 1.6.2 FAULTS:

The mine is separated from New Majri OC Mine by a NW – SE trending major faults of more than 200m throw towards SW and railway line. In the proposed OC mine there are two faults F<sub>1</sub> – F<sub>1</sub>, trending NW – SE, throw (+) 150m in southerly direction and F<sub>2</sub>-F<sub>2</sub>, Trending NW-SE Throw 10m in northerly direction. In addition, there is a minor fault mf1-mf1 of 2 m throw in Southerly direction.

#### 1.7 QUALITY OF COAL

The quality of coal is G-11. However weighted analysis of coal is as follows;

Moisture	- 7.0%
Ash	- 32.35 %
UHV	- 3470 (K. Cal/Kg)
GCV	- 4115 (K. Cal/Kg)
Grade	- 'G11'

### 1.8 GEO-MINIG PARAMETERS:

The Geo-Mining Parameters of the New Majri UG to OC mine are as follows;

Table 1 - BRIEF DESCRIPTION OF PRESENT SCENARIO OF PROJECT

SI No	PARTICULARS	
1.	Lease hold area	431.27 Ha.
2.	Mineable coal reserve	12.00Mt
3.	Total ob including access trench	43.05 MM <sup>3</sup>
4.	Average stripping ratio	1:3.59
5.	Annual coal target	Existing: 0.80MT Proposed: 1.20MT
6.	Life of the project	Existing: 17 years Proposed: 11 Years
7.	Quarry area on floor	74.35Ha
8.	Quarry area on surface	114.35Ha
9.	Initial depth of the quarry	20Mtr.
10.	Final depth of the quarry	90Mtr
11.	Average strike length on floor	2080Mtr
12.	Average strike length on surface	2350 Mtr
13.	Average width of the quarry on floor	375Mtr
14.	Average width of the quarry on surface	550Mtr
15.	Gradient of the seam	1 in 5 to 1 in 6
16.	Effective thickness of composite seam	16 to 18.50
17.	Grade processed rom	"G11"
18.	Length of the access trench	368 Mtr
19.	Manpower	430
20.	Boundaries	Lat N-20 <sup>0</sup> 6'34'' to N- 20 <sup>0</sup> 8' 37'' Departure E-79 <sup>0</sup> 0'30'' to E-79 <sup>0</sup> 2' 20''



## **1.9 COAL RESERVES-**

In the proposed New Majri UG to OC mine, the annual target of coal production is 1.20 MTPA and peak OB removal is 4.30 Mm<sup>3</sup>/annum. The total mineable coal reserve envisage is 12 MT and life of the mine would be 11 (eleven) years.

## **1.10 DRILLING & BLASTING**

Controlled blasting method has been adopted in proximity of substation or any important structure. In order to keep the ground vibrations within the permissible limit as per DGMS Circular No. 7 of 1997, to avoid flying of rock fragments and also to achieve satisfactory blasting results, optimized drilling / blasting parameters depending upon rock formation using combination of relays / delays will be evolved. The existing Site Mixed Explosive will be used to save charging time and avoid creating extra Magazine capacity. The existing magazine of New Majri UG to OC would cater for this project also. Powder factor of 3.0 m<sup>3</sup>/kg & 7.0 t/kg for OB and coal has been considered.

## **1.11 COAL HANDLING ARRANGEMENT**

An existing coal handling plant of New Majri OC is to handle the entire production of coal from this proposed expansion till new CHP is installed for the project.

The CHP will have facilities like crushing and storage of coal. The mode of dispatch will be by road with the help of trucks to New Majri U/G siding or to miscellaneous local consumers.

## **1.12 LAND REQUIREMENT-**

. Existing Leasehold Area of New Majri UG TO OC

(a) Tenancy land	:	435.74HA
(b) Govt. land	:	18.92 HA
(c) Forest Land	:	NIL*
(d) Land Already acquired	:	24.50 HA
TOTAL AREA	:	479.16HA

The approval of Environmental clearance (EC) is for 479.16 HA.

\*- In the existing EC there is provision of 3.68 ha of forest land. As off now, the aforesaid 3.68 Ha of land has been recorded as non-forest land as detailed below

1. As per records of Revenue Department (7/12), the above 3.68 Ha land is mentioned as grazing land which is revenue land. The matter has been taken up with the Tahsildar Bhadrawati vide letter no. WCL/MA/AGM/APO/2016-17/2635 dated 29.06.2016
2. Tahsildar Bhadrawati asked clarification from DFO Bhadrawati vide his letter no. Kr/KV/A.K./Prastu-1/2016/997 dated 23.09.2016 whether the land is forest land or revenue land.
3. A joint survey was conducted on dated 17.10.2016 by team of forest Deptt, according to which prima facie it is not the forest land.
4. The forest department of govt. of Maharashtra vide its letter no. 1017 dated 08/11/2016 has confirmed his land as grazing / revenue land.
5. Subsequently, Tahsildar Bhadrawati, district Chandrapur vide its letter no. 1172 dated 9/15.11.2016 has also confirmed the aforesaid land as grazing / revenue land.

The Existing land use plan with respect to the present project is as below:

SL NO	DESCRIPTION	AGRICULTURAL LAND (ha)	WASTE(Govt) LAND (ha)	ZUDPI JUNGLE (ha) #	TOTAL (ha)
1	Excavation	110.31	3.54	0.50	114.35
2	External OB dump & Embankment	98.68	3.02		101.70
3	Infrastructure	9.60	0.40		10.00
4	blasting Zone etc.	59.82	1.62	3.18	64.62
5	Future Extension Quarry	131.64	5.46		137.10
6	Area needed for rationalization	50.19	1.20		51.39
	TOTAL	460.24	15.24	3.68 #	479.16

# As of now this land area of 3.68 ha has been duly recorded as grazing / revenue land i.e. non-forest land. The relevant certificates have been attached at annexure XII and XIII of Addendum EIA/EMP.

### 1.13 POST MINING LAND USE

Land use at the end of Mining with respect to the present project is as below:

Sl no	Particulars	Plantation	Void	Public use	Undisturbed	Total
1	External OB dump & Embankment	90.00	-	-	11.70	101.70
2	Excavation	-	114.35	-	-	114.35
3	Infrastructure	3.00	-	7.00	-	10.00
4	Blasting Zone Etc	-	-	-	64.62	64.62
5	Future Extension Quarry	-	-	-	137.10	137.10
6	Vacant land- Area needed for rationalization	40.00	-	-	11.39	51,39
<b>TOTAL</b>		133.0	114.35	7.0	224.81	479.16

### 1.14 PLANTATION PROGRAMME

Plantation programme in respect of NMUG to OC Mine:

YEAR	No. of Plants	Area plantation to be done
1 <sup>st</sup> Year	20000*	Other Area

At the end of 7 <sup>th</sup> Year	100000	Other Area
At the end of life	325000	Dump and Other Area

During this FY 2016-17 monsoon season, twenty thousands (20,000 Nos.) plantation has been done on plain land and all along periphery of the mine on about 8 ha of land area.

### **1.15 CALENDAR PROGRAMME OF EXCAVATION AND SOLID WASTE MANAGEMENT**

In the proposed New Majri UG to OC mine, the annual target of coal production is 1.20 MTPA and peak OB removal is 4.30 Mm<sup>3</sup>/annum. It is envisaged in this option of the project report that removal of overburden (except 5m top OB above coal seam) would be done by hiring/outsourcing of HEMM and extraction of coal is proposed to be done by departmental HEMM. The 5m OB above coal seam as well as re-handling of OB (0.20 Mm<sup>3</sup>) for blanketing of exposed coal shall be worked by departmental HEMM.

One external OB dump has been proposed in the rise side (eastern side) of the quarry as shown in quarry & Surface Layout plan. The individual dump benches would be of 15m height and final angle of overall slope of OB dump would be about 28<sup>0</sup>. Maximum height of proposed external dump is planned as 60m. The overburden quantity in the rise side dump has been estimated as 41.55Mm<sup>3</sup>. As mostly the mine area falls below HFL hence an embankment with 30m top width has been proposed at the periphery of mine whatever required. The quantity of OB in the construction of embankment has been estimated as 1.5Mm<sup>3</sup>.

No internal dumping is proposed in the mine due to difficult geo- mining conditions such as steep gradient of quarry floor, limited quarry width, developed underground workings etc. Calendar Programme of OB dumping will be as tabulated below.

Table 2 - Calendar Programme Of OB Dumping

Sl.No	Year	Dept. Coal Prod. in MT.	Over Burden Dumping in Mm <sup>3</sup>		
			Internal	External	Total
1	2015-16	0.80	0	2.714	2.714
2	2016-17	1.20	0	4.27	4.27
3	2017-18	1.20	0	4.30	4.30
4	2018-19	1.20	0	4.30	4.30
5	2019-20	1.20	0	4.30	4.30
6	2020-21	1.20	0	4.30	4.30
7	2021-22	1.20	0	4.30	4.30
8	2022-23	1.20	0	4.30	4.30
9	2023- 24	1.20	0	4.30	4.30
10	2024 - 25	1.20	0	4.30	4.30
11	2025-26	0.40	0	1.636	1.636
TOTAL		12.00	0	43.05	43.05

The total OB is 43.05 Mm<sup>3</sup>.

Actual performance is tabulated below:-

Year	Coal (Mt)	OB (Mm <sup>3</sup> )
2014-15	NIL	NIL
2015-16	0.80	2.714
2016-17 (up to 31.10.2016)	0.713	1.987

Additional capital is not involved as mining operation for enhanced capacity of coal production shall be carried out within the existing lease area. No additional land & HEMM equipment are required, hence additional capital requirement for enhancement

of coal production from 0.80MTPA to 1.20MTPA is nil. The mining plan for the above has been duly approved by WCL board in its 281<sup>st</sup> meeting held on 19.09.2016. Copy of Board approval is attached at Annexure – VII.

**Certificate against existing EC has been issued by RO, MOEF&CC Nagpur vide its letter no. ....dated ..... And attached as Annexure – XI.**

**Hence, at present EC for expansion of production capacity from 0.80 MTPA to 1.20 MTPA in a ML area of 479.16 ha is solicited.**