

## **PROJECT NOTE**

### **LOCATION & COMMUNICATION :-**

Hindusthan Lalpeth Opencast Project is located in Lalpeth Geological Block bounded by latitude 19°53'35" To 19°54'04" to Longitude 79°18'04" to 79°19'30" within the Survey of India Topo Sheet No.56 M/5. The project is situated in Chandrapur District of Maharashtra State. On the North of Project, Chandrapur Town is situated and to its south Nandgaon Incline Underground mine is situated. On its west, Manna Incline Underground mine & Erai river and to its East is Hindusthan Lalpeth colliery No. 1 underground mine is situated. Nearest town is Chandrapur, which is only 5 km. North of the project. The project is approached via Nagpur – Kazipeth – Hyderabad State Highway passes approximately parallel to and about 2 KM on East side of the mine. New Delhi – Chennai main line of Central Railway and Chanda Fort – Gondia broad gauge line of South Eastern Railway pass just East & north respectively of the mine. Nearest main railway station is Chandrapur ( at KM 877 from Bombay VT ) while another Babupeth station (KM 881.5 from Bombay VT) on Central Railway is about 10KM & 1KM respectively.

The existing HLOC project is an ongoing project having capacity of producing 0.65 Million Tes. of coal per annum and directly linked to the Chandrapur Super Thermal Power Station of M.S.E.B.

Govt. of India, Ministry of Coal, New Delhi's notification was published in the Gazette of India on 07.01.1984, by notification under section 9(1) of C.B.A (A&D) Act 1957, acquired the forest land and the rights of 95.02 ha.( all right 37.07 Ha. + Mining right 57.95 Ha. ), vide S.O. No. 22 dated 28.12.1983, which includes 36.98 ha. of required forest land for present diversion proposal.

Govt. of India, Ministry of Coal, New Delhi's notification was published in the Gazette of India on 19.06.1982, by notification under section 9(1) of C.B.A (A&D) Act 1957, acquired non forest land and the rights of 216.64 ha. ( Revenue land 137.21 Ha. + Govt. land 79.43 Ha.), vide S.O. No. 2240 dated 31.05.1982.

For Hindusthan Lalpeth opencast Block, 72.22 Ha. of forest land was approved by the Govt. of India, Ministry of Environment & Forest, New Delhi's vide F. No. 8-115/95-FC/1480-F, Dated 08.05.2001. Out of that 72.22 ha. of forest land, 24.87 Ha. for opencast mining, 42.30 Ha. for underground mining & 5.05 Ha. Safety zone, ( copy enclosed ).

At present, 24.87 ha. of forest land approved for opencast mining out of which opencast mining in about 18.65 Ha. Forest land area has been done and backfilled. Further, opencast mining operation will be carried out in the balance forest land of 6.22 Ha.

And 42.30 Ha. of forest land approved for underground mining out of which underground mining in about 21.63 Ha. forest land has been done and 20.67 Ha. forest land is left.

Hindusthan Lalpeth Opencast Project is supplying coal mainly to Chandrapur Super Thermal Power Station, Maharashtra State, which caters to the need of power supply in Vidarbha and others parts of State. To run the power plant and to meet the growing demand of power, it is very essential to keep Hindusthan Lalpeth ( Expansion ) Opencast Mine running smoothly by diverting 36.980 Ha. of forest land for opencast mining for which we have already underground mining right.

#### **DETAILS OF HINDUSTAN LALPETH (EXPANSION ) PROJECT :-**

The project report of existing Hindustan Lalpeth Opencast Mine was prepared by CMPDI, RI-IV, Nagpur in March 1979 for target capacity of 0.59 Mty at an average stripping ratio of 1:3.11. The excavation was started in Aug. 1985. After exhaustion of coal reserves up to PR limit, a scheme was prepared to extract 2.53Mt coal in the dip side beyond PR limit at an average stripping ratio of 1:6.13. Presently, the existing Hindustan Lalpeth Opencast Mine is being operated under this approved scheme and the coal reserve envisaged in this scheme will be exhausted in 2014 – 15.

Project report of Hindusthan Lalpeth (Expansion) Opencast mine of Chandrapur Area is prepared & duly approved by the competent authority vide letter No. WCL/CHA/AGM/PLG/ REV/123 dated 10.01.2013. The total mineable reserve of coal is 5.87 million tones with 58.003 million Cu.M. OB at an average stripping ratio of 9.881 and life of the project is about 8 years at normal production capacity.

This Expansion Project Report has been prepared to work the dip side property of existing Hindustan Lalpeth Opencast mine upto fault F4-F4 and Delhi-Chennai Central Railway Line. This will include the area worked ( partly developed and partly depillared ) by Nandgaon UG mine. In partial hiring option, the desired selling price to yield 12% IRR at 85% production capacity works out to ` 2519.68 / t.

#### **JUSTIFICATION FOR LOCATING THE PROJECT IN THE FOREST AREA :-**

The location of the site for coal mining operation fully depends upon nature's deposit of minerals and Geological structure of the coal seams. Hence question of exploring alternative site for the purpose does not arise.

#### **E.M.P. :-**

Hindusthan Lalpeth Opencast Project was accorded Environmental Clearance by MOEF vide letter no. J-11015/93/2005 - IA.II(M) dated 14<sup>th</sup> July 2006 with the production capacity of 0.59 MTPA to 1.0 MTPA by opencast method for coal production in a lease area of 311.66 Ha.

The Project Report of Hindusthan Lalpeth ( Expansion ) Opencast Mine has been planned for annual production target of 1.00 Mty. However, in favourable conditions in some of the years of the mine life, the peak production may go upto 125% of the target production, i.e. upto 1.25Mty. The existing EMP & Environmental Clearance of the HLOC mine has been approved for 1.00Mty and a fresh EMP / Environmental Clearance for the mine would be required for the peak production capacity of 1.25 Mty and excavation land area from 77.21 ha. to 107.83 Ha.

**EMPLOYMENT LIKELY TO BE GENERATED :-**

Permanent Employment in HLOC Project is 594 nos. as on 31.03.2014. The total manpower requirement in this project report in departmental option, partial hiring option and total hiring option is 680, 518 and 214 respectively. Depending upon the option for which the project report is approved, either the additional manpower will be arranged from or surplus manpower will be transferred to the other mines of WCL.

**MANPOWER & PRODUCTIVITY :-** The annual capacity of the proposed Hindusthan Lalpeth (Expansion) Opencast mine has been rated as 1.00 MTPA of coal and 10.261 Mm<sup>3</sup> of peak OB ( In-situ + rehandling) for the entire 8 years of mine life. The manpower requirement would be 518 in partial Hiring option and the OMS works out to be 7.313 in partial Hiring option. Permanent Employment in HLOC Project is 594 nos. as on 31.03.2014 and this manpower would reduce per year due to superannuation.

**DETAILS OF DISPLACEMENT OF PEOPLE DUE TO THE PROJECT, IF ANY.  
:-**

- i. Number of families : As on 01.04.2014 as per proposal of P.R..  
(a) Encroachment in Forest land to be acquired Approx.300 house  
(b) Waghoba Mandir  
Encroachment in Forest Land is other persons generated in long time.
- ii. Rehabilitation plan : As per company Policy .  
Rehabilitation Action plan is prepared at CMPDI, RI-IV, Nagpur & enclosed in Mining plan.

**LAND :-**

The break up of type of additional land required and land use pattern of additional land for Hindusthan Lalpeth (Expansion ) Opencast Mine is as follows.

<b><u>Type of additional land required</u></b>		
Sr.No.	Particulars	Total land ( Ha.)
1.	Tenancy land	NIL
2.	Government land	NIL
3.	Forest land ( Reserve Forest )	36.980
<b>Total</b>		<b>36.980</b>

**A) Reserve forest land already sanctioned vide MoEF order No. F. No. 8-115/95 FC / 1480 - F, dated 08.05.2001.**

Item of work/ purpose	Name of village	Forest land required					Legal status of land
		Survey /Gut	Compt. No.	Length x width in mtrs.	Area		
					Sq.mtrs	Ha.	
1	2	3	4	5	6	7	8
Hindusthan OC Lalpeth Opencast (Expansion) UG Project SZ	Chandrapur Division, Chandrapur	-	485	-	-	24.87	R.F.
		-	485	-	-	42.30	R.F.
		-	485	-	-	5.05	R.F.
Total Forest land already sanctioned						72.22	

**B) Non Forest Area ( Deforested Area )**

Sr.No.	Name of village	Private/Tenancy	Govt.	Forest Land	Total
1	2	3	4	5	6
1.	Dharmshal Tukum	6.07	0	0	6.07
2	Disforested Siddharth Nagar and Central Rly.	16.73	0	0	16.73
<b>Total</b>		<b>22.80</b>	<b>0</b>	<b>0</b>	<b>22.80</b>

Total area is B + C = 72.22 Ha. + 22.80 Ha. = 95.02 Ha.

- C) As per Govt. of India, Ministry of Coal, New Delhi, Notification No. S.O. No. 22 dated 28.12.1983 under section 9(1) of CBA Act 1957, acquired the land and right of all right 37.07 Ha. & Mining right 57.95 Ha. Govt. Forest land & de-forested land area of Comp. No. 485.

**All Right**

Sr.No.	Name of Forest	Comp. No.	Tahsil & District	Area in Ha.	Remarks
1.	Govt. Forest (Western Zone )	485	Chandrapur	29.92	Part
2	Disforested Area ( Dharamsala Tukum and De-forested area )	485	Chandrapur	7.15	Part
<b>Total</b>				<b>37.07</b>	

**Mining Right**

Sr.No.	Name of Forest	Comp. No.	Tahsil & District	Area in Ha.	Remarks
1.	Govt. Forest (Western Zone )	485	Chandrapur	41.92	Part
2	Central Railway	485	Chandrapur	14.46	Part
3	Disforested Area	485	Chandrapur	1.57	<b>Part</b>
<b>Total</b>				<b>57.95</b>	

**D) Non Forest Land Area**

As per Govt. of India, Ministry of Coal, New Delhi, Notified under section 9(1) of CBA Act 1957, vide S.O. No. 2240 dated 31.05.1982, acquired 216.64 Ha. non Forest land. Detail given below :-

Sr.No.	Name of village	P.C. No.	Tahsil & District	Area in Ha.	Remarks	
1.	Chanda Rayatwari	8	Chandrapur	24.13	Part	Revenue Land
2	Mana	6	Chandrapur	88.28	Part	
3	Nandgaon	6	Chandrapur	24.80	Part	
4	Babupeth	-	Chandrapur	79.43	Part	Govt. land
<b>Total</b>				<b>216.64</b>		

Total lease area is 72.22 Ha. ( Forest land ) + 239.46 Ha. non forest land ( 22.80Ha. + 216.64 Ha. ) = 311.66 Ha.

<b><u>Land use pattern of additional land</u></b>		
Sr.No.	Particulars	Total land ( Ha.)
1.	Quarry Area ( beyond existing quarry ) ( out of 42.30 ha. UG mining )	30.62
2.	External OB dump	NIL
3.	Infrastructure	Nil
4.	Area needed for rationalization ( erecting 11KV power line, Public road, coal transportation road, drain, encroachment houses, etc. ) and blasting zone, etc ( 1.94 Ha. out of 5.05 ha. safety zone & 4.42 ha. out of 42.30 ha UG mining )	6.36
<b>Total</b>		<b>36.980</b>

### **METHOD OF MINING**

The proposed Hindustan Lalpeth ( Expansion ) Opencast Mine is extension of existing Hindustan Lalpeth Opencast Mine, which is presently being worked with shovel – Dumper combination. It is proposed to work the extension area also with shovel – Dumper combination. The target production has envisaged as 1.0 Mty. Horizontal Slicing method is recommended for the proposed PR.

### **GEO-MINING CHARACTERISTICS**

Hindustan Lalpeth OC block is narrow shaped area lying between one major fault and sub crop. Coal is being extracted from existing Hindustan Lalpeth OC mine . Two major faults forms the boundary of Hindustan Lalpeth OC.

### **MINE PARAMETERS**

The Geo- Mining parameters of the proposed Hindustan Lalpeth ( Expansion ) OC Mine ( including existing quarry ) is given below :-

Sl. No.	Particulars	Expansion OC including existing mine area
<b>1</b>	<b>Area of quarry</b>	
(a)	Floor Area ( Ha.)	84.19
(b)	Surface Area ( Ha.)	146.77
<b>2</b>	<b>Quarry Depth</b>	
(a)	Initial (m)	40
(b)	Final (m)	175
<b>3</b>	<b>Average Gradient of seam</b>	1 in 4, N 60 <sup>0</sup> 55'54" E
<b>4</b>	<b>Composite seam thickness</b>	
(a)	Minimum (m)	13.15
(b)	Maximum (m)	19.30

(c)	Average (m)	16.00
5	Strike length (m)	2310
6	Width on surface – ( Dip Rise )	
(a)	Minimum (m)	425
(b)	Maximum (m)	880
7	Coal quality (GCV Range ) ( Kcal/Kg )	4091 - 4514
	Overall Grade /GCV	G-10 ( 4309 Kcal/Kg)
8	Mineable / Extractable Reserves (Mt)	5.87
(a)	Cut – I	2.18
(b)	Cut - II	1.89
(c)	Cut - III	1.80
9	Total OB (Mm3)	58.003
(a)	Insitu OB (M.m3) (Sector –I : 16.401 ) + (Sector-II : 16.432) + (Sector-III : 11.320 )	44.153
(b)	Rehandling OB (M.m3)	13.85
10	Average stripping ratio (m3/t) (a) Without Rehandling (b) With Rehandling	7.522 9.881
11	Total OB Dump	58.003 * ( as on 01.04.2015 )
(a)	Internal dump (M.m3)	48.003 * ( as on 01.04.2015 )
(b)	External Dump (M.m3)	10.00
* : 4.799 Mm3 of OB is scheduled to be removed in the existing mine during 2013 – 14 & 2014-15 which will be dumped internally in the existing northern side de-coaled void of quarry. The total OB dump capacity available as on 01.04.2014 will be 58.003 Mm3 ( 48.003Mm3 in internal dump and 10.00Mm3 in external dump.		

**CALENDAR PROGRAMME OF EXCAVATION :-**

The calendar program of excavation considering mine capacity per year is as follows :-

YEAR	COAL PROD. (M.Te.) Deptt.	OB TO BE REMOVED (Mm3 )					System Capacity ( Deptt+ Hiring)
		Deptt.	Contractual.			Total. ( Deptt. + Hiring )	
			Top OB	Rehandling	Top OB		
YEAR - I	0.65	2.044	3.820	2.980	6.800	8.844	3.514
YEAR - II	0.65	2.044	3.820	2.780	6.600	8.644	3.701
YEAR - III	0.65	2.103	3.513	2.787	6.300	8.403	3.890
YEAR - IV	0.70	2.055	2.697	3.703	6.400	8.455	3.832
YEAR - V	1.00	1.819	0	6.900	6.900	8.719	3.677
YEAR - VI	1.00	1.765	0	5.600	5.600	7.365	3.308
YEAR - VII	1.00	1.711	0	4.600	4.600	6.311	3.140
YEAR - VIII	0.22	1.262	0	0	0	1.262	3.060
TOTAL	5.87	14.803	13.850	29.350	43.200	58.003	

Year	Coal (M.te)		Programmed OB (M.m <sup>3</sup> )			
	Yearly	Cumulative	Departmental	Hiring	Total Yearly	Cumulative
I	0.65	0.65	2.044	6.800	8.844	8.844
II	0.65	1.30	2.044	6.600	8.644	17.488
III	0.65	1.95	2.103	6.300	8.403	25.891
IV	0.7	2.65	2.055	6.400	8.455	34.346
V	1	3.65	1.819	6.900	8.719	43.065
VI	1	4.65	1.765	5.600	7.365	50.430
VII	1	5.65	1.711	4.600	6.311	56.741
VIII	0.22	5.87	1.262	0	1.262	58.003

**DUMPING PLAN FOR OVERBURDEN :-**

Since there is hardly any space available in the adjoining area of the proposed Hindustan Lalpeth ( Expansion ) OC mine, planning of the proposed has been done to ensure maximum internal dumping to utilize the northern side de-coaled void of existing quarry with heightening upto 60-90m above surface level. Out of total 58.003 Mm3 OB, only 10.00Mm3 is required to be dumped externally.

**YEAR WISE EXTERNAL & INTERNA DUMPING & STAGE PLAN**

Year	Total Overburden (M.m <sup>3</sup> )		External Dump (M.m <sup>3</sup> )		Internal Dump (M.m <sup>3</sup> )	
	Yearly	Cumulative	Yearly	Cumulative	Yearly	Cumulative
I	8.844	8.844	2.790	2.790	6.054	6.054
II	8.644	17.488	0.000	2.790	8.644	14.698



III	8.403	25.891	0.000	2.790	8.403	23.101
IV	8.455	34.346	0.000	2.790	8.455	31.556
V	8.719	43.065	4.253	7.043	4.466	36.022
VI	7.365	50.430	1.017	8.060	6.348	42.370
VII	6.311	56.741	1.820	9.880	4.491	46.861
VIII	1.262	58.003	0.120	10.000	1.142	48.003


#### **SEQUENCE OF MINING :-**

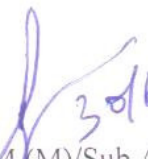
The proposed Hindustan Lalpeth (Expansion ) OC Mine lies in the dip side of southern part of existing Hindustan Lalpeth OC Mine and this area has been divided in to three sectors/Cuts namely Cut – I, Cut – II & Cut – III from rise to dip. At present, the entire southern part of existing quarry is completely backfilled and heightened up to 30 – 40m above surface level. Thus, to extract the coal reserves from the expansion area, the rise side backfilled OB will have to be re-handled.

Presently, the existing Hindustan Lalpeth OC Mine is being worked in the central part near dip side PR/Scheme limit and haul road to access the working area lies in the northern part of the quarry. However, in the proposed Hindustan Lalpeth (Expansion ) OC Mine, internal dumping has been proposed in the northern part of the quarry where mine has reached its dip side limit up to fault F4-F4. There is hardly any space available near the mine for external dumping and therefore, it is envisaged in this Hindustan Lalpeth (Expansion ) OC Mine PR to accommodate maximum OB dumping in the northern side decoaled void of the quarry and to merge it with the adjoining External dump and heighten it about 60-90m above surface. Therefore, the present haul road in the northern part of the quarry to access the dip side area can not be maintained because of the above internal dumping.

It is, therefore, proposed in this PR of Hindustan Lalpeth (Expansion ) OC Mine to make another haul road in the southern side of the quarry after re-handling of backfilled OB. The re-handled OB will be dumped partly in external dump and partly in the de-coaled void of northern side quarry.

The rehandling of backfilled OB and construction of new haul road in the southern side will take time and during this period the mine may be worked with existing haul road and Cut – I of the expansion area will be extracted from northern end. The haul road will be completed and entire rehandling of backfilled OB will be done in the first 4 years during complete extraction of Cut – I. Cut-II of the expansion area will be worked from 4<sup>th</sup> year to 6<sup>th</sup> year and thereafter last Cut – III will be worked from 6<sup>th</sup> year to 8<sup>th</sup> year.

  
20/06/2014  
Sr. Manager (M)/Manager  
Hindustan Lalpeth OC Mine  
Chandrapur Area, WCL.

  
30/6/14  
Dy. G. M. (M)/Sub Area Manager  
Hindustan Lalpeth OC Sub Area  
Chandrapur Area, WCL