

EXECUTIVE SUMMARY
OF
ENVIRONMENTAL IMPACT ASSESSMENT
&
ENVIRONMENTAL MANAGEMENT PLAN
FOR
PUBLIC HEARING AS PER EIA NOTIFICATION, 2006

GHONSA OC EXPN.
(Wani North Area, WCL)

(Production Capacity – 0.60 MTPA)

{Land area – 278.683 (Within existing recommended land)}

*(Prepared as per instruction of 55th EAC (Thermal & Coal Mining),
MoEF&CC, New Delhi held on 13/05/2016)*



JULY – 2016

Prepared by

CENTRAL MINE PLANNING AND DESIGN INSTITUTE LIMITED

A Mini-Ratna Company

CMPDI/EIA/PH/01/WCL/2016-17/JUL/35/00

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1. INTRODUCTION

Ghonsa OC Expn. is located in Wani Taluka of Yavatmal District of Maharashtra State and named after nearby Ghonsa village. The WCL Board in its 167th Meeting, held on 9.10.2001 approved the total hiring option for South quarry only (128.79 Ha), for an initial capital of Rs.6.99 crores and for an annual targeted capacity of 0.30 Mty. The environmental clearance for this project was obtained from MOEF in January 2005.

Subsequently, a RPR for Ghonsa OC expansion with a rated capacity of 0.45 MTPA with 293.65 ha has been prepared and approved by WCL Board. Based on above referred RPR, the Form – 1 was submitted to MOEF through MOC vide letter no. 43011/29/2009- CPAM dated 28.05.2009. It was discussed in the Expert Appraisal Committee of MOEF on 24.06.2009 and Terms of Reference (TOR) has been issued by MOEF vide its letter no, J- 11015/165/2009 –IA.II (M) dated 08.07.2009.

As directed by MOEF vide aforesaid TOR, Public Hearing document was prepared and submitted to Maharashtra Pollution Control Board for conduction of PH as per EIA Notification, 2006. The Public Hearing was successfully conducted by MPCB on 09.08.2011 for 0.45 MTPA production capacity within mine leasehold area of 293.65 Ha. Based on the suggestions made in the Public Hearing, the final EIA/EMP was prepared submitted to MOEF for obtaining Environmental Clearance as per EIA Notification, 2006. Since stage-I FC was not available at the time of consideration of EC by EAC, accordingly, EC for enhancement was granted for phase I - the existing land area i.e. 128.79 ha (without forest land) for a capacity of 0.45 MTPA. For phase-II, EAC recommended the project for EC for a production capacity of 0.45 MTPA in the extended ML area of 293.65 ha, subject to submission of Stage-I FC

The Environmental Clearance for Phase – I of the project within the existing land was accorded by MOEF vide its letter no. J – 11015/165/2009-IA.II (M) dated 29.02.2012.

Another application of enhancement of EC capacity from 0.45 to 0.60 MTPA within existing ML area i.e. 128.79 Ha was made u/s 7(ii) of EIA Notification, 2006 on 10.01.13 and due certification by MoEF&CC against Compliance of EC conditions obtained on 15.05.14. EC was granted by MoEF vide letter no. J-11015/165/2009-IA.II (M) dated 08.12.2014

Now, MoEF&CC vide its letter no. 6-MHC-30/2014-BHO/181 dated 08.03.2016 accorded the 'in -principle' clearance under Section-2 of the Forest (Conservation) Act, 1980 for diversion of 24 ha of forest land in favour of WCL for mining of Coal at Ghonsa OC Project.

Subsequently, based on Revised Project Report(which includes Mining Plan) approved on August, 2015, EC for Ghonsa OC Expansion (Phase-II) for capacity of 0.60 MTPA with Expansion of Land from 128.79 ha to 278.683 ha was applied vide letter no. WCL/ENV/HQ/ 11-B/95 dated 10.03.2016.

Project was discussed in 55th EAC meeting held on 13th May 2016. EAC instructed that since the public hearing (even though it was for 293.65 ha) is nearly 5 years old, fresh public hearing needs to be held. This report has been prepared for conducting public hearing as per EAC recommendations along with compliance of minutes of 55th EAC minutes, Compliance of earlier public hearing minutes, Compliance of earlier EC by RO, MOEF&CC Bhopal.

2. PROJECT DESCRIPTION

2.1 LOCATION

Ghonsa OC Expn. falls in Wani Taluka of Yavatmal district of Maharashtra State. The area is bounded by latitudes 19°57'11" and 19°58'35" N and longitudes 78°49'30" and 78°50'25" E, and is covered by Survey of India Toposheet No. 56 I/13.

2.2 ACCESSIBILITY AND COMMUNICATION

Ghonsa village at the north-west corner of the mine is connected by State Highway No. 233 from Wani town which in turn is connected with National Highway - 7 to Hyderabad via Pandharkawada. The distance of Ghonsa village from Wani town is about 20 km. The project area may be approached from Wani-Patan main road via. Rasa- Kumbharkhani fair weather road having distance of about 3 Km. from Rasa Junction. Nearest railway station to Ghonsa OC is Wani in Majri - Rajur Branch of Central Railway. A railway line from Wani to Mukutbandh passes about 10 km away at Pitur flag station from project area.

2.3 TOPOGRAPHY AND DRAINAGE

Ghonsa OC Expn. exhibits gently undulating topography sloping towards Vidarbha River flowing in the southwest of the Block. The elevation varies from 229.08

to 240.44m from mean sea level. The main drainage of the area is controlled by Vidarbha River which flows in south-westerly direction passing through Central and Southern property and finally meets with Penganga River. A few small seasonal nullahs passing through the property drain into Vidarbha River during rainy season. HFL of Vidarbha River is recorded in 1990 as 237.15 m.

2.4 GEO MINING CHARACTERISTICS

The proposed Ghonsa OC mine has been divided into three quarries namely, south quarry, central quarry and north quarry. South quarry has already exhausted. The geo-mining parameters of the proposed quarry are given in Table 1 – Geo-mining Characteristics

Table 1 – Geo-mining Characteristics

Sl. No	PARTICULARS	NORTH QUARRY	CENTRAL QUARRY	SOUTH QUARRY	TOTAL
1	Area of the Quarry				
a)	On floor (Ha.)	53.52	22.97	27.68	104.17
b)	On surface (Ha.)	68.37	28.70	38.05	135.12
2	Depth (m)				
a)	Initial	25	23	13	-
b)	Final	76	45	46	-
3	Gradient of Seam	1 in 8 to 1 in 7.5	1 in 10.5 to 1 in 7.5	1 in 12 to 1 in 10.5	
4	Effective thickness of seam (m)				
a)	Seam-I	1.12 to 2.93	1.40 to 2.50	1.00 to 3.50	
b)	Seam-II	3.57 to 2.93	2.68 to 3.80	2.12 to 5.40	
5	Strike length (m)	990	850	955	2795
6	Width on surface (m):				
a)	Maximum	765	530	510	-
b)	Minimum	655	285	180	-
7	Mineable reserves (Mt) as on 1.4.2016	4.59	0.31	NIL	4.90
8	Total OB including	25.85	2.38	NIL	28.23

Sl. No	PARTICULARS	NORTH QUARRY	CENTRAL QUARRY	SOUTH QUARRY	TOTAL
	Access Trench (As on 01.04.2016)				
9	Average S.R. m ³ /t.	5.63	7.68	-	5.77

2.5 METHOD OF MINING

The coal is being extracted by opencast method with shovel –dumper combination in patches with total hiring option.

2.6 DISPATCH

Coal from the face would be dispatched to CHP which will be transported by belt conveyor for onward transport to Railway siding.

2.7 LAND USE OF MINING LEASE AREA

Land use has been given in Table 2 - Land Use

Table 2 - Land Use

S.N.	LAND USE	Land already acquired	Land to be acquired	Total (ha)
1	Agricultural land	132.070	72.373	204.443
2	Forest land	-	24.000	24.000
3	Waste land	35.950	14.290	50.240
4	Grazing land	-	-	-
5	Surface water bodies	-	-	-
6	Settlements	-	-	-
	Total	168.020	110.663	278.683

Table 3 - Comparison of land area 2012 vis-à-vis present proposal

Sl. No.	Recommended by EAC held in 2012			Present Application		
	Forest Land (ha)	Non-Forest Land (ha)	Total (ha)	Forest Land (ha)	Non-Forest Land (ha)	Total (ha)
1	24.00	269.65	293.65	24.00	254.683	278.683

Table 4 - Post-mining Land use pattern of ML/Project Area (ha)

Sl.	Land use post mining	Land use (ha)				
No.		Plantation	Water Body	Public use	Undis- turbed	Total
1	External OB Dump	29.35	0	0	0	29.35
2	Excavation Area	80	46.84	0	8.28	135.12
3	Infrastructure like Sub- station, CHP Service Buildings etc.	4	0	11	0	15
4	Diverted Road	0.25	0	1.25	0	1.5
5	Blasting Zone (including rationalization Area)	20	0	0	32.333	52.333
6	Future Ext. & Plain Land Plantation	0.76	0	0	14.24	15
7	Embankment	0	0	30.38	0	30.38
Total		134.36	46.84	42.63	54.853	278.683

2.8 JUSTIFICATION

The deficit in supply of coal from WCL as a whole is increasing every year. New mines/ projects have to be opened or expansion of existing operating mines has to be done by WCL in order to meet the ever increasing demand of coal.

In view of the readily available market for coal and huge gap in demand and supply of coal from WCL, proposed expn. is fully justified.

3. DESCRIPTION OF ENVIRONMENT

Baseline data of ambient air quality for a period of one month has been generated in compliance of minutes of meeting of 55th EAC.

3.1 AIR ENVIRONMENT

3.1.1 METEOROLOGICAL DATA

Meteorological data collected during the study reveal the following status.

- Predominant wind direction was from North/North West.
- The average wind velocity is 1.92 m/sec.
- The maximum temperature recorded was 45.3°C and the minimum was 25.5 °C.

- The relative humidity ranges from 63% to 10%
- Cloud cover was clear in most of the part of study period
- No rainfall was recorded during the study period.
- The average atmospheric pressure values was found 752 mm Hg.

3.1.2 AMBIENT AIR QUALITY STATUS

One month ambient air quality data has been generated in compliance of MoM of 55th EAC dt. 13.05.2016. All values are found within permissible limits. SO₂ concentration ranges from 4.1 µg/m³ to 12.3 µg/m³ with average value of 7.6 µg/m³. NO_x concentration ranges from 6.3 µg/m³ to 15.2 µg/m³ with average value of 11.1 µg/m³. PM₁₀ concentration ranges from 60 µg/m³ to 90 µg/m³ with average value of 71.1 µg/m³. PM_{2.5} concentration ranges from 22 µg/m³ to 49 µg/m³ with average value of 32.8 µg/m³.

3.2 NOISE QUALITY

Ambient noise level data in day time varies from min 49.8 dB(A) to max. 55.9 dB(A), which is well within the permissible limits

3.3 WATER QUALITY

At all locations, Oil and grease, phenolic compounds, cyanides, sulphides and insecticides are found to be absent and all heavy metal values are found to be below the detectable limit. In general, the water quality at all locations are found to be well within the prescribed norms of GSR: 422E, IS: 10500 – 1991 (Permissible limit) and IS: 2296 - 1982.

3.4 SOIL QUALITY

The soil quality of the project area appears to be good and would support vegetation after suitable reclamation / modification.

3.5 CONCLUSIONS

The following conclusions are drawn on the basis of one month baseline ambient air data, regular monitoring data and baseline data of neighbouring project

All the values viz. PM₁₀, PM_{2.5} SO₂, NO_x, and heavy metals are found to be well within the AAQM Standards prescribed by CPCB.

As per IS: 4954 -1986 norms for acceptable outdoor noise levels all values are found to be well within the prescribed limits.

The water quality at all monitoring locations are found to be well within the prescribed norms of GSR: 422 E, IS: 10500 – 1991 (Permissible limit) and IS: 2296 - 1982. The soil quality of the project area is good and would support vegetation after suitable reclamation / modification.

4. ENVIRONMENTAL IMPACT ASSESSMENT AND MITIGATION MEASURES

The environmental quality w.r.t. air, water & noise in the immediate surroundings of the mine area are within the permissible limit values. With operation of Ghonsa OC Expn. (Phase – II), there may be marginal increase in the level of pollutants. Sincere efforts will be made to keep the level of various pollutants well within the permissible limit by implementing the appropriate mitigation measures effectively. Regular environmental monitoring will be continued as per Env. Protection (Amendment) Rule, 2000.

4.1 AIR ENVIRONMENT

In order to mitigate the adverse impacts on ambient air, the following control measures have been proposed and will be implemented during the actual operation of Ghonsa OC Expn. (Phase- II).

- a) Water sprinkling on road, stockpiles by mobile tankers.
- b) Black topping and maintenance of road.
- c) Covering of trucks carrying coal & avoiding overloading of trucks.
- d) Regular monitoring of ambient air quality as per Env. Protection Rule, 2000

Moreover as analysis of regular monitoring data over past years shows that no significant impacts have been observed upon environmental parameters, it is anticipated that no significant impacts will be observed in future too.

4.2 WATER ENVIRONMENT

The quality of the water pumped out from mine is likely to remain the same because of same hydro geological set up. Strata seepage will get accumulated in the mine sump having sufficient capacity which will allow significant settlement of suspended particles and the accumulated water will percolate to the goaved out workings below in lower seams. Regular monitoring will be continued as per Env. Protection (Amendment) Rule, 2000

Ground water and hydrology- The area is mostly covered weathered Basalt and Vindhyan Formation in buffer zone and weathered Lametas and Kamthis in core zone.

Range of groundwater in year 2015 is given in below table

Pre monsoon	Core Zone	6.35 m to 14.90 m
	Buffer zone	1.90 m to 7.75 m
Post monsoon	Core Zone	3.55 m to 18.80 m
	Buffer zone	1.20 m to 7.21 m

Net ground water availability is 22.14 MCM and gross annual ground water draft is 4.19 MCM and surplus ground water to the tune of 15.76 MCM is available for future utilization and development. Thus, the present stage of ground water development in and around the project is about 18.92% which can be categorized as **"Safe"** with less than 70% value. As per GSDA & CGWB report on Yavatmal district of Maharashtra, the stage of development in Wani Tehsil, in which Ghonsa OC Expn. is located, is 112.01 % and classified as **"Safe"** category.

Radius of mine influence area:

The radius of mine influence area has been estimated for Ghonsa OC Expn. (Phase – II) based on the above mentioned aquifer and mine parameters and works out to 535 m (Approx.) at final mine depth of 76 m.

4.3 NOISE ENVIRONMENT

Control measures as given below have been taken up for minimizing the increase in ambient noise level and the same will continue to be maintained during the entire life of the mine.

- a) Regular maintenance of plant and machineries.
- b) Providing protective gears to workmen like ear muff/ ear plugs in noisy equipment.
- c) Regular monitoring as per Env. Protection (Amendment) Rule, 2000

Moreover as analysis of regular monitoring data over past years shows that no significant impacts have been observed upon environmental parameters, it is anticipated that no significant impacts will be observed in future too.

4.4 OCCUPATIONAL HEALTH & SAFETY

The circulars and orders of DGMS including the rules and regulations will be adhered to in respect of occupational health and safety. However, some measures regarding occupational health and safety are

- Periodical medical examination of work force.
- First aid facilities.
- Refresher training to workers as per statute etc.

4.5 LAND MANAGEMENT

Land degradation may take place in any opencast mine due to excavation and external OB dumping. Efforts will be made to minimize land degradation by accommodation of the OB in the already de-coaled quarry. In this mine planning has been done in such a way that degradation of land due to external OB Dumping is restricted to minimum and simultaneously already worked out quarry area gets filled up along with filling up of the proposed quarry area to the maximum possible extent. Here, south quarry is exhausted and it is proposed to backfill to minimize requirement of land for OB dumping. About 88.69 Ha land of 135.53 Ha quarry area would be backfilled which is 65.44 % of total quarry area.

4.6 SOCIO – ECONOMIC IMPACT

Due to operation of Phase – II of existing mine in the coalfield, the effect on economic status of the local population would be generally positive. The major impacts would be the creation of indirect job opportunities and self – employment. Catering to the needs of WCL colony residents itself has created lot of opportunities for self – employment e.g. small dairies, poultry farming, growing of vegetables and trading the above local people and the scenario is to improve further.

5. ADDITIONAL STUDIES

5.1 DISASTER MANAGEMENT PLAN

The mine has been planned in conformity with the prevailing statutory provisions as per mines Act, 1952 and CMR, 1957 applicable for safety in opencast mines. All the regulations & provisions of CMR 1957 in addition to all statutory rules, regulations, applicable laws etc. and statutory requirement related to Govt. licenses, worker compensation, insurance, contractor workers deployment etc. shall be adhered to in order to maintain safety.

5.2 SLOPE STABILITY

All precautions have been taken and shall be continued to be taken for stability of Quarry batter & internal dumps.

6. PROJECT BENEFITS

The benefits of the project can be summarized as below:-

6.1 PHYSICAL BENEFITS

The physical infrastructure in the area has already been improved substantially by following ways:-

- Development of road, thereby improving the communication.
- Improvement in Power, Telephone (including Mobile) facility.
- Improvement in Health Care facility & Educational facility.
- Improvement in Market / Trade & Business.
- Nearby villages of the project will get benefited under the Corporate Social Responsibility (CSR) activities of the WCL.

6.2 SOCIAL BENEFITS

The social infrastructure by way of cultural mixing of people of other states with local community glorifying "UNITY IN DIVERSITY"

6.3 ECONOMIC BENEFITS

Substantial employment in the project & indirect employment for business & trading, contractor, transportation, vehicle contractor, nursery development

7. MINE CLOSURE PLAN

Mine closure planning has now become an essential part of mine planning and operation.

- 1) To allow a productive and sustainable after-use of site which is acceptable to the mine owner and the regulatory authority.
- 2) To protect public health and safety.
- 3) To alleviate or eliminate environmental damage and thereby encourage environmental sustainability.
- 4) To minimise adverse socio-economic impacts.

7.1 CLOSURE COSTS

Ghonsa OC Expn. is a working mine and mine closure for existing land is already approved by WCL board in 240th meeting held on 25th August 2012. Total amount in escrow a/c with 5% escalation is 10.68 Crore. The financial provision for closure fund of Ghonsa OC mine for additional 150.683 ha land works out to Rs. 15.7354 Crores

based on March, 2015 WPI @ Rs 6 lakh/Ha and 5% escalation each year. Thus the mine closure cost is Rs. 31.16 /t.

8. ENVIRONMENTAL MANAGEMENT PLAN

The environmental management involves multi-disciplinary approach to implement all activities as per the guidelines laid out in EIA/EMP report.

In order to effectively implement the programme of plantation, land reclamation and other control measures for maintaining the environmental quality of air, water, noise, soil etc. the project personnel in close co-ordination with General Manager, Wani North Area, along with General Manager (Environment), WCL(HQ) , would make concerted effort to carry out and monitor progress at each level and effectively implement the various control measures for environmentally sustainable mining in the area.

8.1 COST OF ENVIRONMENTAL PROTECTION MEASURES

Rs. 60 lakh has been kept in approved revised PR, which includes mine plan of which mine closure plan is an integral part Environmental Pollution control expenses will be met from a fixed cost provision of Rs 6.00 per tonne.

9. DISCLOSURE OF CONSULTANT

Central mine planning and Design institute Ltd. (CMPDI) is an ISO 9001:2008 certified a mini ratna company. It has total manpower of 3622 as on 01.04.2016. It is QCI – NABET accredited EIA consultant. It has its HQ at Ranchi and operates through its Regional Institutes providing constancy to corresponding production companies. Regional Institute – IV, which provides consultancy to Western Coalfields Limited has a fully functional NABL and OHSAS 18001 accredited laboratory.

Hence as directed by MOEF&CC, this Executive Summary of draft EIA report of Ghonsa OC Expn. has been prepared for submission to Maharashtra Pollution Control Board for conducting Public Hearing.