

Scrutiny Comments on examination of draft Modification to the Mining Plan submitted under rule 17 (3) of MCR, 2016 in respect of Codli Iron Ore Mine, ML No.03/AMLG/(ML-3)/VL/17 over an extent of 300.2081 Ha. of M/s Vedanta Limited, in South Goa District of Goa state

GENERAL

1. Para 3.3- The Review of Development and Production of all leases for the period 2015-16 to 2017-18, reveals that less attention is paid towards developmental activities and concentrated on production only. This is against the scientific development of mines. Proper justification of deviation should be given. Further, adequate proposal should be given in the current proposal to cover up the backlog of development in the interest of safe and scientific mining.
2. Para 3.3- The achieved figure in respect of 2017-18 to be given till 31.12.2017 and the remaining part to be furnished in the proposed one.

Details of approved mining plan:- i) Current status of exploration proposed in the year 2017-18 should be discussed as on date. Action plan for completing the exploration during 2017-18 to be indicated.

Geology and Exploration:- i) The highest and lowest elevations of the lease area mentioned at page no 14 need to be rechecked and corrected. The highest and lowest elevations mentioned in the text are not matching with the surface plan. ii) Under local geology strike of the formation in whole circle bearing need to be mention. iii) Strata of the lease area with thickness should be as per the borehole data. iv) Rule under which plans and sections prepared is to be corrected as per MCDR-2017. v) As per rule 12(4) of MCDR 2017 entire mineralized area is required to be explored under G-1 level of exploration. At page number 19 it is stated that about 31.9690 ha is explored under G-2 level of exploration and about 11.7174 ha is unexplored, so exploration proposals should be given to explore entire mineralized area under G-1 level of exploration vi) Lateral extension from the extreme borehole cannot be taken for estimation of the reserves. vii) The lateral extension to be considered for resource assessment shall depend on geological considerations supplemented by geological continuity by mapping or by other means and in any case shall not be more than 50% of the grid spacing of the probe points. viii) In the common boundary the depth and extent considered for estimation of the reserves under UNFC codes 111,121 and 122 should be based on the VALID common boundary working plan approved by DGMS. The common boundary working plans should be enclosed. ix) The common boundary working permissions which are enclosed as annexure 8 and 9 are not valid as on date. So a fresh common boundary working permission should be enclosed otherwise reserves which are blocking in 7.5 mtr safety zone should be re-estimated under remaining resources. xiii) Reserves should be estimated as on 01.01.2018. x) Table numbers should be mentioned. xi) In most of the sections it is observed that ore body is projected without any borehole data and ore is estimated under proved category. So ore body should be properly projected based on the exploration data and reserves resources should be estimated as per MEMC rules 2015. xii) Chemical analysis for all the formations i.e., all type of ore and waste analyzed from the NABL approved laboratory needs to be enclosed. xiii) Bulk density for reserves/resources estimated under different grades is taken same. This needs to be rechecked. The bulk density and recovery factors should be based on the test conducted.

Plans and sections

Geological plan and cross sections:- i) Dip and strike of the formation is not marked properly on the surface geological plan. ii) Area explored under different level of exploration is not marked surface geological plan and UNFC codes mentioned on geological cross sections needs to be rechecked and corrected. iii) Section lines should be clearly marked and labeled on the geological plan. iv) Collar level, depth and inclination of the boreholes to be mentioned on Geological plan and sections. v) Color codes given for 7.5 safety zone UPL etc should be rechecked. vi) In some of the sections Lithology shown on geological plan and cross sections are mismatching. Lithology and other features shown on plan and sections needs to be rechecked and corrected.

MINING

3. The width of the benches for production and development are not designed in view of the current scenario of mining condition for safe and scientific mining. Therefore, Mine/pit to be redesigned in safe, systematic and scientific way.
4. The table furnished for Insitu Tentative Excavation to be suitably furnished after due correction/modification in the parameters as discussed while field inspection.
5. Existing benches were observed to be unstable and insufficient in width due to loose eroded and unstable strata. The details of action to be taken to maintain the mine pit in safe and systematic manner to be elaborated. Further, Slope stability and hydrogeological study studies to be proposed in order to substantiate the safety and scientific mining of the proposed operations.
6. The existing equipment capacity for loading and hauling is not sufficient with the proposed excavation quantity for the instant modification of documents. Therefore, in view of the equipment capacity and mining constraints excavation proposal may be revised /justified. The ROM quantity excavated till date of existing approved quantity ,remaining to be achieved and additional quantity enhancement allocation to be indicated clearly .Only those quantity of ROM to be proposed which is practically feasible with safe working conditions up to 31st March 2018.
7. The excavation and waste disposal locations should be parted with sufficient distance to substantiate the requirement of statute and scientific provisions.

MINE DRAINAGE

8. Para 3.c):- The calculation for adequacy of pumping arrangement such as nos. and capacity should be based on the water catchment area, average rain fall etc. and the manner for discharging the mine water in view of the environment consideration to be discussed. Catchment area be re-calculated in view of the Amalgamation of Leases for computation of rain-water likely to be accumulated
9. Para 3.d):- Rainwater management plan i.e. drainage plan along with arrangement for arresting solid wash off should be given. Existing arrangement and proposal for protective measures to control wash-off from mine discharged water should be given along with flow chart.
10. A layout of water management with flow chart may be discussed in quantified manner.

STACKING OF MINERALS REJECT/ SUB-GRADE AND DISPOSAL OF WASTE

11. It has been observed during inspection that the area proposed for dumping/backfilling were not found in hydro-logically ready conditions. Further, to ensure the safety of men and machinery the waste disposal to be carried out in dry and compact area, equipped with sufficient monitoring provisions.
12. The height and width of the proposed terraces for dump/ backfilling should be redesigned scientifically with due consideration of all safety parameters.
13. Proposed protective measures around the surface waste dumps and back-fill area in pit, like Bund, retaining wall, check dams, garland drainages, settling pits and geotextiling/plantation etc. should be given in quantified terms in tabular form.

PLATES:-

14. Rule 31, 32 & 34 of MCDR, 2017 and convention of MMR-1961 to be followed for preparation of plans & sections.
15. All plans to be prepared based on recent and accurate survey and to be correct as per existing surface features & mine profile. Such plans should be prepared by the qualified Surveyor and certified by the mining engineer of the mine for its correctness.
16. Proposed design for waste disposal to be modified as per the scrutiny on text part.
