

Scrutiny comments on examination of draft Modifications in approved review of mining plan submitted under rule 17(3) of MCR 2016 in respect of Dhangarwadi Bauxite Mine of M/s. Hindalco Industries Limited, over an extent of 41.80 Ha, situated in Dhangarwadi and Ainwadi Villages, Shahuwadi Taluka, Kolhapur District of Maharashtra State.

- 1) **General:-** i) On the cover page along with the present block period proposed modification period needs to be mentioned. ii) On the cover page, text and in certificates it is mentioned that the document is prepared by technical person instead of Technical Qualified Person may be indicated. iii) In the consent letter type of the document and under which rule the document is submitted for approval is wrongly mentioned. This needs to be corrected. further CCOM Circular No.2/2010 has been already implemented. Accordingly Certificate may be corrected. iv) As per annexure –iv consent for operation is valid up to 31.10.2021. However in the introduction chapter validity is mentioned as 31.10.2018. This needs to be rechecked and corrected. v) Details of Statutory clearances obtained and to be obtained from different authorities to carryout mining operations to be discussed and copy of the same should be enclosed as annexure. vi) Updated and latest list of Board of directors and copy of resolution passed by board of directors nominating Mr. Mainak Chakraborti as authorized signatory needs to be enclosed. vii) In the introduction chapter and location and accessibility chapter distance from nearest wild life sanctuary, distance from ESZ/ESA, any notices, guidelines received from the concerned authorities in connection with the mining lease needs to be discussed.
- 2) **Location & accessibility:-** i) The DGPS reading given at page no-4 and DGPS readings given at page no-5 for all the boundary pillars are not matching with the DGPS readings mentioned on Surface plan.
- 3) **Details of approved mining plan:-** i) The last approved document is the Review of Mining plan. However at page no-7 the earlier approved document is mentioned as mining plan. This needs to be corrected. ii) Details of actual excavation of soil given in the text and table are not matching. The proposed figures and actual figures of development and production should be given in tonnes also. The reason for deviation in production and development needs to be discussed. The actual figures of development and production are needs to be rechecked with the returns submitted to IBM. At page no-9 figures given in the table and text are mismatching. iii) At page no-8 it is mentioned that actual production in cum is more than the proposals this needs to be justified. iv) At para 3.4 violations pointed by the IBM and compliance position of the same needs to be discussed. v) At para 3.6 reason for modification needs to be discussed.
- 4) **Geology and Exploration:-** i) Regional geology of the area needs to be discussed at para 1(b). and at para 1(c) geology of the lease area with thickness of the different litho units needs to be discussed. ii) Under details of exploration already carried out total area explored under different level of exploration area to be explored, area proved as non-mineralized by exploration, type of exploration carried out etc needs to be discussed in

detail. iii) Details of exploration is not discussed as per the IBM manual on appraisal of mining plan 2014. iv) The para 1(f) to 1(l) are not discussed in detail as per the IBM manual on appraisal of mining plan 2014. v) Details of plans and section prepared, details of samples analyzed so far, expenditure incurred on exploration, proposed exploration etc. are not discussed properly. vi) The reserve estimation is not properly given for float ore, insitu ore. In the last approved document the reserves which are blocking in 7.5 mtr safety zone were estimated under 211 category. In the present submission after getting permission from DGMS for working in 7.5 mtr safety zone same are estimated under 121 category. Why feasibility axis is kept under 2 needs to be justified. The reserves given in the page no-24 and 25 are mismatching, at page no-24 no reserves are estimated under 211 category and at page no-25 about 9179.39 tonnes of ore which is blocking in 50m nalla are estimated under 211 category this needs to be clarified. vii) Buck density and recovery factors should be taken based on the test conducted. How bulk density and recovery factors taken for estimation of reserves needs to be discussed.

- 5) Mining.** i) Details of existing method of mining with existing pits along with dimensions and locations should be discussed. ii) Length, width and height of the proposed benches needs to be discussed. iii) On plan and sections co-ordinates should be given in UTM format and same should be mentioned in text also. iv) The proposed R.L's (Top/bottom) should be given in the year wise proposals for insitu and float ore mining. v) The proposals given in the mining chapters needs to be rechecked and corrected. In the insitu deposit recovery is shown as 95% and nothing is discussed about 5% and in float ore recovery is shown as 80% and nothing is shown for remaining 20%. Further in respect of Insitu Ore for 2019-20 proposal in bracket it may be mentioned that after approval of modified mining plan. At page 30 below table 5, it is indicated 100% for float ore also. It should be clarified. vi) Tonnage for float ore excavation is not given at page no-30. vii) At page no-32 under summary of year wise production some quantity is mentioned under stock this needs to be clarified. If the quantity shown under stacks is already extracted ore then it should not be shown under production. viii) The year wise proposed working co-ordinates given in the text and working proposal marked on the production and development plans needs to be rechecked and corrected. The co-ordinates marked on the plan and co-ordinates given in the text appears incorrect for the year 2021-22. ix) The date of reserve estimation given at page no-37 needs to be corrected. x) The year wise proposed backfilling area is not marked on the production and development plans and on reclamation plan. xi) Whether the quantity of waste generated will be sufficient for bringing the mined out area of 7.5 mtr safety zone to original ground level as the condition imposed in the permission letter issued by the DGMS to work in 7.5 mtr safety zone needs to be discussed in detail. Further the year wise waste required for backfilling the mined out area is more than year proposed waste generation. How balance quantity will be adjusted needs to be justified. xi) Under mining chapter no mineral reject generation was shown. However under use of minerals and mineral reject generation of mineral reject is shown for insitu mining this needs to be clarified. xii) At page number 50 it is mentioned that the mineral reject/subgrade ore will be sale to Cement industries.

Since the lease is granted for captive use this needs to be justified. xiii) Flow chart of the dry crushing and screening plant needs to be given under processing of ROM.

- 6) **Progressive Mine Closure Plan:-** i) The land use details given as on 1.04.2019 are not matching with the land use details mentioned in the annual returns submitted for the year 2017-18. The area of excavation is mismatching. ii) Details of backfilled area, Green belt and Mineral storages are not shown. iii) The details of flora, fauna and climatic conditions need to be discussed. The base line information of environmental components as per IBM/MOEF guidelines for EMP and frequency of monitoring to be discussed. iv) The year wise proposals of PMCP should be marked on the reclamation plan. v) Proposed environmental monitoring station in the core and buffer zones needs to be discussed. vi) For financial assurance, in the last approved mining plan area considered as fully reclaimed & rehabilitated is taken as 13.00ha and in the present submission same is shown as 18.55 ha. This needs to be clarified. The additional area may be reclaimed but not fully rehabilitated, so area given under R & R needs to be rechecked and corrected. vii) For financial assurance the area taken for mining is shown less compare to last approved mining plan. However in the last approved mining plan production and development was proposed for only one year and in the present submission production and development was shown for three year and additionally working is proposed in 7.5 mtr also, so area given under mining needs to be rechecked and corrected.

Plates:-

- 1) **General:-** i) Cadastral plan showing the DGPS readings of the boundary pillars and updated Satellite imaginary plan required as per the Rule 35(2) of MCDR 2017 is not submitted. ii) Lease sketch authenticated by the concerned authorities is not enclosed.
- 2) **Keyplan:-** i) Latitude and Longitude of the lease area is not shown. v) Forest land, Sanctuaries, Agricultural and waste lands are not shown properly.
- 3) **Geological plan and cross section:-** i) In 7.5 mtr safety zone only soil is shown on geological plan and cross section. However in the same area production is also proposed. So geological plan and sections needs to be updated. ii) The color codes and pattern marked on the plan are mismatching with the index provided.
- 4) **Production and development plan and section:-** i) The proposed year wise working R.L,s should be marked on plan and sections. ii) Not necessary to give production and development plan for the year 2022-23, since no production and development was shown in the year 2022-23. The plantation and backfilling proposals for the year 2022-23 may be marked on the reclamation plan.
- 5) **Reclamation plan:-** i) Year wise proposals of backfilling, plantation, other protective measures which are discussed in the PMCP needs to be marked on the reclamation plan.
- 6) **Financial Assurance Plan:** - i) Area considered for financial assurance should be corrected as per the scrutiny given in the PMCP chapter.
- 7) **Environment plan:-** i) Environment monitoring stations of core and buffer zone area not marked.