

Scrutiny comments on the draft Modification in Approved Mining Plan along with Progressive mine closure plan of Amtipani Bauxite Mine over 190.95 hectares of M/s. Hindalco Industries Limited, in Amtipani, Gurdari & Chirodih villages of Gumla District, Jharkhand State submitted under Rule 17(3) of MCR 2016 and 23 of MCDR 2017 for the period from 2021-2022 to 2024-2025.

General:

1. Certificates: Word 'lessee' should be used instead of 'applicant' in case of existing lease. Details of Forest/ Non-Forest to be mentioned in cover page. As per IBM manual for appraisal of mining plan 2014 all the certificate should have the original signature of Lessee and Qualified person who has prepared the mining plan. Lease period and approved plan period is wrongly mentioned in cover page. QP has submitted the certificate for Gurdari Bauxite mine.
2. CCOM circular no. 2/2010 addendum, regarding ML boundary pillars to be implemented. During inspection it has noticed that boundary pillars are not erected for Non Lease isolated area.
3. This modification is submitted due to change in RL difference with compare to DGPS, but the RL differences is not uniform in all places and vary from 1m to 8m. Even though it's surveyed area and RL varies to justify.

Location and accessibility:

1. Corner boundary pillar erected are not standard procedure of MCR 2016. Co-ordinates of all the boundary pillars to be enclosed based on DGPS co-ordinates only.
2. Details of forest and non-forest land details within lease area are not given, whereas Lease map shows that area included Jungle Jhari area. Its need to be explained.

Details of approved Mining plan/ Scheme of Mining:

1. Under earlier approved mining plan, it is not discussed about the valid modification in approved mining plan.
2. There is no proposal has shown in Quarry -6A for development in approved plan during 2020-2021.
3. The year wise production & development quantity should be updated & given till date based on statutory annual/ monthly returns submitted to IBM & deviation should be justified. The proposed & achievement should be mentioned as per approved plan proposal i.e. Latitude & Longitude/ RL etc. & actual workings done should be discussed in tabular form with proper justification.
4. Dump-2, 3 & 4 has been rehandled and backfilled against the proposal. Reason given for rehandled is to comply the EC condition is not acceptable, since the EC has granted on 2006.

Geology:

1. As per approved plan, during 2019-2020, 217 boreholes have been explored but submitted draft document shows that boreholes are drilled during 2017-2018.
2. Local Geology lithology is totally differs from approved plan. Thickness of Soil & murrum has increased from 1m to 6m and Ferrogenous Laterite also increased from 3.95m to 6m. Even though there is exploration has been taken place after approved document. How lithology is differs need to be explain.
3. Page-19:- Reserves are estimated as on 01.09.2019. It should be updated as on date.
4. UPL has to proposed upto proved depth only. No extrapolation of extreme borehole has to be considered for estimation of reserves & resources. Beyond & below the depth of boreholes, it should be considered as resources.

5. Reserves and Resources calculation sheet is not updated just submitted from the approved plan data. The excavated area is still showing the reserves.
6. Existing Boreholes are insufficient to prove the quantity and quality of Bauxite deposit nearer to negative borehole area. During inspection it has noticed that negative Borehole AGC-173 is mined out and backfilled. When area is proved as non mineralized area, then why it is mined out.

Mining:

1. Production planning is silent on grade of ore to be produced, cut-off grade for sale of ore, reject generation and its stacking. Nature of waste and mineral reject describing the lithology has not been mentioned. Need to furnish the same.
2. Present pit dimension with length, breadth, RL, depth, benches in Ore & waste has to be shown in table format for all the existing pits & dump area. Number of Dumps/ stocks of waste, Sub grade/ mineral reject, processed ore etc with size of each dump i.e. L X W X H and total quantity of waste material in the dumps for recovery of salable grade ore, if any in future and its basis has to be given. Dump recovery should be based on scientific data through trench/ pit sampling at closer interval and accordingly additional exploration has to be proposed for future proposal of dump mining, if any.
3. Proposal of five year development & production, waste management, reclamation & rehabilitation, afforestation are to be shown on individual year-wise plan & sections. Another table or column in existing table may be incorporated indicating B.D. and tonnage for ROM Bauxite.
4. The mine design parameter should be discussed in brief with all precautionary measures. Instead of referring plan & section plates, is should be discussed in brief in tabular form.
5. During 2021-2022 it is proposed to backfill the area nearer to Borehole AGC-173, but during inspection it has noticed that area is already fully backfilled and area nearer to AGC-161 is partly started to backfill. Quarry-6A also started to backfill as per submitted draft proposal.
6. In approved plan, 21.66 hectares of additional area is required for entire plan period to produced 15.00 lakhs of bauxite, whereas within one year 10.00 hectares has been excavated and produced 2.27 lakhs of bauxite.
7. Describe briefly with calculation for adequacy and type of machinery and equipment proposed to be used in the lease for different activities of drilling/ripping, total handling in development and production, surface transportation and any other ancillary operation.
8. Para 2 (f):- Conceptual mine planning may be end of lease period. Generation of Production, wastes and their location of disposal, afforestation and other protective measures during conceptual period have not been discussed. Incorporated tables of proposed mine development, location of disposals of wastes, afforestation and other environmental protective measures during RMP period (i.e. year 2021-22 to 2024-25) need not necessary under this para.

Stacking of Topsoil, Mineral Reject and Disposal of waste:

1. Concurrent backfilling, capacity & precaution envisaged have not been explained properly. Backfilling of waste from year to year to be mentioned in text (with ref. to RL of individual area) and total height of the backfilled area year wise with description of the method & manner of disposal of waste should be mentioned.
2. Proposal for protective works to be carried out year wise around backfilled area with design details & materials to be used for its construction should be given taking in to consideration average rain fall in the area.
3. There is no discussion about usage of Lateritic OB and Quarry Waste quantity generated during this proposed plan period. Sub Grade mineral also not discussed.

PMCP:

1. Few photographs of the ground control points, working area, dumps, afforestation on dumps, mineral stacks of different grade, pits and tailing pond showing baseline information as on date may be enclosed. Human settlements and public buildings, places of worship and monuments within core zone have to be given.
2. In previous approved plan under Financial Assurance table, area considered as fully reclaimed and rehabilitated is 11.17 hectares, whereas recent draft submission also shows 11.17 hectares are fully reclaimed. Its need to be explains.

PLATES:

1. Key plan:- Land use pattern i.e. forest, waste land, agriculture land etc is not shown as per rule 32(5)(a) of MCDR 2017. Excluded lease area is not shown. The prominent features existing in core and buffer zone to be shown. Lease area should be bounded by all sides showing latitudes and longitudes of extreme four points.
2. Surface Plan: 7.5m safety barrier along the lease boundary has to be shown in all plan and safety zone also to shown. Based on updated surface plan and field inspection, it was noticed that safety barrier has not maintain for non-lease area within lease area. Surveyor and mines manager signature is needed in this plan. Boundary pillars along with its Latitude & Longitude values to be included.
3. Surface Geological Plan & sections: Geological plan & section should be drawn based on exploration has been carried out. UNFC codes should mark in Geological plan & sections. Sub surface resources can't be projected on plan under UNFC category. UNFC codes have to be described in text also. All boreholes should be marked with type, diameter, inclination, collar level and depth. Boreholes above pit bottom must be shown by hatched lines in sections. All sections Lateral and vertical extrapolation of maximum 25% beyond the borehole is allowed for G-1/G-2 category; accordingly all the sections may be modified for showing UNFC reserves category. UPL is not visible. Geologist signature is needed in this plan and section.
4. Five-year planning: Section should be drawn as per Geological Section. Proposal of plantation, check dams, retaining wall, drainage channel, dumping etc may also be included on the year-wise plan & sections. Other scrutiny comment given in text has to be suitably reconciled.
5. The environment plan shall be clearly about as per rule 32(5) of MCDR 2017 duly covering the 500m all around the lease. Lease boundary is shown differently.
6. Financial Assurance plan: Different colour code has to used for pit, infrastructure, mine road, backfilling etc by showing outlines of the existing working pits, dumps, mineral stacks, roads, virgin unused area etc covering all the items under the financial assurance table as on 01.04.2021 and at the end of plan period for the purpose of computation of the areas required to be used in that period to verify the financial assurance. Table showing area considered for financial assurance under different activities should be given. In the FA only the present & future land use shall be indicated clearly delineating with proper colour code, the present & future land requirement under different working heads.
7. Conceptual Planning: It has to be prepared by including five-year block wise proposals for development, waste management, reclamation & rehabilitation, afforestation etc up to the lease period instead of tentative final pit limit at the end of lease period. Longitudinal and transverse sections are required in support of conceptual planning. Other comments may be suitably reconciled. Conceptual Mine plan upto the end of lease period has to be prepared on the base geological plan and sections considering the present available reserves and resources by showing

the excavation, disposal of waste, backfilling of voids, reclamation and rehabilitation, afforestation etc.

8. Reclamation plan: It should prepare by including proposals of progressive mine closure plans i.e. reclamation & rehabilitation, afforestation, garland drain, retaining wall etc.
9. Conceptual Planning: It has to be prepared by including five-year block wise proposals for development, waste management, reclamation & rehabilitation, afforestation etc up to the lease period instead of tentative final pit limit at the end of lease period. Longitudinal and transverse sections are required in support of conceptual planning. Other comments may be suitably reconciled. Conceptual Mine plan upto the end of lease period has to be prepared on the base geological plan and sections considering the present available reserves and resources by showing the excavation, disposal of waste, backfilling of voids, reclamation and rehabilitation, afforestation etc.
10. Signature of Lessee, Mines manager & Geologist are missing in few plan. The mine surveyor shall sign all the statutory plans and a copy of his certificate to be enclosed.

Annexure:-

1. Only part of lease deed and sketch has been enclosed.
2. The clear and legible Xerox copy to be enclosed for all annexures.
3. All the annexure to be properly indexed/ numbered/ paged and signed by the TQPs.
