

Scrutiny comments on the Final Mine Closure Plan of Balaji Iron Ore Mine over 19.331ha of Shri Anil Khirwal, in Balijore village, Noamundi Taluk, Singhbhum (West) District, Jharkhand State submitted under Rule 24(1) of MCDR 2017 for the period from 2021-2022 to 2022-2023 (upto 30.04.2022).

General:

1. Certificates: Word ‘lessee’ should be used instead of ‘applicant’ in case of existing lease.
2. The entire chapter of mining & in general everywhere in the text & drawings it is spelled up in two parts i.e. as per present EC & proposed. Overall this appears as if an application for EC. You are advised to state the proposal only and not in two bifurcations.
3. Proposed Exploration, production, development & afforestation should coincide with approved plan quantity and area.
4. Para-1.1.7:- Qualified person qualification and his experience to be mentioned.

Location and accessibility:

1. Number of Boundary pillar co-ordinates shown in text part are differ from number of boundary pillar shown in plan.
2. Para-1.2.6:- Postal address of mine should not leave blank.

Review of Earlier approved proposals given in the MP/ SOM/ RMP/ MMP/ FMCP:

1. 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.
2. Para-1.4.3:- Under review of earlier approved mining plan there is no discussion about 15% waste generated quantity. How much quantity has been achieved against the proposal of 11099 tons during 2019-2020 and 45000 tons during 2020-2021 to be discussed? Reason for increase in recovery from 85% to 100% to be discussed.
3. Para-1.4.7:- During 2019-2020, total Fines of 19825 tons has generated, whereas 26200 tons has been utilized and 12997 tons has stacked. Generated qty. should be the sum of utilized and stacked qty. The same needs to be discussed for 2020-2021 also.
4. Para-1.4.17:- There is proposal for backfilling in Puja Pit during this approved plan period, against that Mahabir Pit has been backfilled on the extreme southern side and reason may be discussed. Whereas submitted draft copy mentioned that backfilling proposal and no achievement. Yearwise proposal and achievement to be discussed.
5. Para-1.4.18:- During this approved plan period, it is proposed to plant 1685 saplings and gap plantation, whereas it is mentioned only 467 saplings has been planted. Reason for deviation to be discussed. Yearwise proposal and achievement to be discussed.
6. Para- 1.4.26:- Last five years violation, show cause or suspension and their compliances should be discussed and copy is also to be enclosed as annexure.
7. Number of pits proposed for production is not discussed and FMCP should be submitted as per prescribed format only.

Geology:

1. The topography of the lease area is not discussed properly. The elevations within the lease area and nature of the land are not discussed properly.

2. Under Geology of the lease area type of the deposit, shape and size of the ore body, structural features if any needs to be discussed. Banded Hematite Jasper occurs in the western part near to Boundary Pillar -2 & 3, but as plan that area is not exposed and till they are virgin area only. The thickness of ore body is mentioned as 10m in puja pit, whereas already pit has reached 15m depth towards south side and 25m in northern side of puja pit.
3. Borehole log enclosed is totally differs from approved document, such as date, depth, lithology, depth and analysis result. In last approved document only 29 boreholes has been drilled, whereas submitted draft copy shows 35 boreholes. It needs to be explain.
4. Detailed estimation sheet for reserve and resources need to be furnished showing sectional area as per UNFC category, influence, BD, recovery factor, location on plan & sections etc. The basis of bulk density and recovery factor should be given on the field tests conducted for different grade of minerals. Test result on moisture contents may also be included. Based on Cut-off grade/ threshold value (i.e. revised threshold value) may also be considered for estimation of reserves & resources. Recovery of mineral should be established from recognized laboratory. Refer Minerals (Evidence of Mineral Contents) Rules 2015 for exploration grid interval to be followed for UNFC reserves & resources estimation.
5. The proof of the expenditure incurred while carrying out the exploration duly supported with the invoices to be enclosed.
6. Copy of all the notices served upon before commencement of the drilling and the borehole logs in the format to be enclosed duly signed by the Geologist of the mine and as per the prescribed format of MCDR.
7. The submitted geological x-section is not at all matching with the plan & borehole logs. The geological axis has been categorized into G1 category on the basis of a single hole as reflected from few of the sections. The interpretation of the ore body is not correct as per the submitted logs. Even in some sections where-in no wastes are shown e.g 2451400N the same are reflected in the logs. In the same section near the bore hole DTH-13 it has been shown as upper benches have been backfilled whereas the immediate level below is void. The drawings have been made hypothetically. No extrapolation of resources needs to be done both laterally & vertically. As already stated above the borehole logs submitted are not matching with the earlier document. All the resources are to be re-assessed & needs to be first brought under different axis of UNFC i.e G1, G2 etc as per the extant MEMC Rules, 2015. The backup calculation in this regard to be brought about clearly in the Annexure. The above correction shall be reflected in all relevant plans & sections.
8. The complete lease area should be proposed under the plan period to cover under exploration to quantify reserves/ resources with cutoff grade corresponding to threshold value suggested by IBM within one year plan period as per Rule 12(4) of MCDR 2017.
9. Proposed exploration are not adequate and additional exploration has to be proposed in working pit also to know the existence of mineral as well as its UNFC compliance has to be planned. Core boreholes have to be planned based on type of deposit and various intrusion etc. As per Minerals (Evidence of Mineral Contents) Rules 2015, proposed borehole spacing along strike may be kept 50m or closer interval.
10. Date of Reserves estimated in approved plan is 20.07.2018 and date of Reserves estimated in draft submitted plan is 13.05.2021, in between the above said period, the lessee has excavated more than 1,50,000 tons of Iron Ore. Whereas reserves is decreased 1.280 million tons to 1.170 million tons only. Hence it needs to be explained.
11. The submitted document indicates that iron ore above 45% Fe exists within the ML area as per the thresholds of IBM. But, the resources have been estimated only above 50% Fe in the report.

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 lumps, fines 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 iron 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. Production and development plan proposal has been shown for 2021-2022, already three months has passed in 2021-2022. So based on that proposal may revise as per available sources, for the remaining period of the mining plan production & development should be proposed.
4. Para-4.4:- During 2020-2021, proposed fines generation is 48099 tons, whereas same quantity has proposed for utilized and stacked also. Same difference has shown for 2021-2022 also.

Final Mine Closure Plan:

1. Para 5.1.1:- As per conceptual land use pattern, 0.3528 hectares are available for mineral storage, but it is not discussed whether mineral stocks will be existing after lease is expiry or not.
2. Para 5.1.2:- Time scheduling for construction of RCC pillar and barbed wire to be discussed. In this para, fencing of the excavated area, securing OB dumps, topsoil dump, sub grade dump & mineral stocks may be proposed & discussed point wise. Securing entry & exit to the mine & mine pits may also be clearly spelt out.
3. Para 5.1.3: (i) Existing afforestation details with area, their locations, no of saplings planted along with survival rate may be furnished. (ii) Proposal for re-grassification, plantation in backfilled area, dump plantation & plantation on ultimate benches with area & no of saplings may be given.
4. Para 5.1.5:- Mine is having large catchment area and substantial quantity of rain water flowing through the lease area. However, adequate rainwater management plan i.e. Environment plan along with arrangement for arresting solid wash off is not incorporating with engineering details & material to be used for its erection/ construction. Accordingly, Proposals should be incorporated in this document in view of environmental protection.
5. Para 5.1.10:-Surface features such as natural drainage system (streams, nalahs, water reservoirs, irrigation dams and canals), roadways & railways, places of historical and archaeological importance, monuments, places of worship, forests with tree density, sanctuaries, wastelands, agricultural lands, grazing lands, predominant wind direction etc may be discussed in brief in this para.
6. Para 5.1.11: All the details (dimensions & area occupied) of the infrastructure present within the ML area may be furnished along with the timelines to dismantle, dispose or decommission the same.
7. Few photographs of the ground control points, working area, dumps, afforestation on dumps, mineral stacks of different grade, pits and backfilled area 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.

PLATES:

1. Surface Plan: RL differences is there, when compare to previous approved plan, i.e. Borehole DTH-1 is on 479m RL as per approved plan and as on date it is 476m RL. Date of survey is too old and needs updation. Dump ID should be uniform in both plan & text.

2. Section line 2451000N shows both G1 &G2 category of resources have been shown in the text & plan both. However, only G1 category of resources has been indicated in the sections.
3. Surface Geological Plan & sections: Geological plan & section should be drawn based on recent exploration has been carried out. UNFC codes are not marked 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. Few sections are having only 2 boreholes and few sections have no boreholes, however category G-1 is consider for reserves. Few boreholes are projected in two sections and having different lithology.
4. The surface plan still indicates the surrendered area. If the area has already been surrendered to the satisfaction of the State Govt. the same need not to be shown in the surface plan. The surface plan shall be updated as per the extant rules under 32 (1)(a) of MCDR 2017.
5. Production & Development plan is not enclosed.
6. The environment plan shall be clearly about as per rule 32(5) of MCDR 2017 duly covering the 500m all around the lease.
7. 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.
8. 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. The clear and legible Xerox copy to be enclosed for all annexure.
2. All the annexure to be properly indexed/ numbered/ paged and signed by the TQPs.
3. A copy of the AAQ, water quality, noise & soil quality reports from a NABL lab. To be supported in respect of the previous year and seasonwise.