

Scrutiny comments on examination of Mining plan (MP) of Pola Dongar Iron & Mn. Mine over 58.8952 ha. (TC No. 65/1951), of Late A. R. G. Figueiredo in South Goa District of Goa state

Text:

GENERAL

1. Enclosed Undertaking/certificate/consent etc. from lessee/TQP in respect of preparation of this review of MP/Scheme is not given as per the guideline of “IBM manual on appraisal of Mining Plan-2014”.
2. As per copy of Title of concession enclosed as Annex-1, the Mining lease/concession was transferred from Mr. Vicente J F de Figueiredo to Mrs. Amalia R G e F Figueiredo, who is no more. However, Undertaking/certificate/consent etc. enclosed with the document is signed by one Mrs. Maria de L F Figueiredo, indicating as her legal heir. But, in Mining Plan approved dtd. 01.02.2008 and in EC dtd. 18.11.2008, Georgina F. de Figueiredo is mentioned as Legal Heir of late Amalia R. G.Figueiredo. Hence, legal heir of Lessee is not clear. It should be clarified and substantiated with documentary evidence.
3. Brief lease history with successive lessee/legal heir to be given in introduction.
4. Status of forest clearance obtained and Surface right acquired for the area present within the ML area should be given in introduction along with documentary proof as enclosure.
5. Para 1a: address for communication of lessee to be given; not to the power of attorney holder.
6. Para 2a: Distance of ML from nearest protected area/wild life sanctuary etc. to be mentioned .
7. Chapter-3: Para 3.3: review of last approved proposal is not carried out properly. Review of exploration, ROM production and Waste generation etc. to be carried out with reason of deviation, if any.
8. Chapter-3: Para 3.4: Status of compliance of violations pointed, if any, after Modification of Mining Plan approved on 14.05.2012 only to be given.
9. Chapter-3: Para 3.5: Details of any suspension/ closure/ prohibitory order, concerning to this mine only to be given.
10. Chapter-3: Para 3.6: In this para & in introduction, Reason for submitting this modification of MP is not properly mentioned. Reason & Justification for submitting this modification of approved MP to be given in detail w.r.t. last approved quantity and proposed quantity, corroborating with reserve position, systematic, scientific and environment friendly mining.
11. Last Modification of Mining Plan approved on 14.05.2012, for proposal up to 2012-13 itself. Now instant Modification of Mining Plan is submitted. Reason for non-submitting (not having) Review of Mining Plan/Scheme of mining documents for gap period (2013-14 to 2016-17) to be given with justification.
12. As Last Modification of Mining Plan approved on 14.05.2012, for proposal up to year 2012-13. For subsequent block of 05 years (2013-14 to 2017-18), only one year 2017-18 is left for working. Hence, instant submitted Modification of Mining Plan (due to change in lease area) should have working proposal for only one year of 2017-18. Therefore, working proposal to be given in present Modification of Mining Plan for one year of 2017-18 only.

Geology:

- Para 1.e: Earlier exploration carried out so far in the lease area should be summarized as per table below and given in the text.

Total Lease area:						
Item of information	Lease area explored as per UNFC norms (in Ha) as on dt...					Remarks/Comments including reasons for not carrying out the exploration as per UNFC norms.
	Total Lease area = A+B+C+D+E					
	G1 Level	G2 Level	G3 Level	Explored and found non-mineralized with level of exploration (Remarks)	Unexplored lease area	
	A	B	C	D	E	
Area as per level of exploration						
No. of BH Drilled						
No. of BH considered for Resource Estimation.						
Meterage Drilled						
Grid Interval						
Scale of Mapping						
Reserve estimated after above exploration as on dated :						
Remaining Resource after above exploration as on dated:						
Total Reserve/Resource after above exploration as on dated:						

- 17 Boreholes has been proposed for the year 2012-2013 in the Modified Plan. But not a single borehole has been drilled in the 2012-2013. This detail has not discussed in review chapter. Now the Number of Boreholes has been reduced and same been proposed for the year 2017-2018. Simply postponing to next year will not fulfill the justification of Exploration.
- Achieved Production & Development for last modified plan may be explained with location, RL & Bench wise. Mineral reject achieved quantity has not given.
- When compared to previous approved plan, the Lease Boundary, RL, Location of boreholes and Pit profile also has been changed, its need to be explain.
- Refer Minerals (Evidence of Mineral Contents) Rules 2015 for exploration grid interval to be followed for UNFC reserves & resources estimation, which indicates 200-100m or closer interval borehole spacing along strike for G-2 and 100m or closer interval borehole spacing along strike for G-1 category of irregular bodies. Geological section has to be drawn in closer interval of 50m.
- Additional exploration is to be proposed to know the continuity of ore in depths and to complete the exploration as per UNFC compliance has to be planned. Many sections are not having sufficient Boreholes and many boreholes are in complete to find out the contact zone.
- Detailed estimation table for reserves & resources as per UNFC has to be given in text. Minerals (Evidence of Mineral Contents) Rules 2015 has to be followed for exploration grid interval for UNFC reserves & resources estimation. Beyond & below the depth of boreholes, it should be

considered as resources as per above said rule.

- Geological reserves & Resources have to be shown in table to compare as per previous approved plan and as of now. Addition or depletion of reserves/ resources to be explained.
- As on 01.11.2010, the 111 category reserve is 19,75,000 tons. Even after removal of 1,99,706 & 52,149 tons of production during 2011-2012 & 2012-2013. The 111 category reserve has decreased to 10,73,175 tons without any exploration. It is need to be explained.
- 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 and old boreholes hanging in air above the pit bottom are not required.
- Geological plan and section has to show only the present lithology and UNFC code can't be given as separate lithology intend of that UNFC code may show. UPL line is not matching with plan and section.
- All Borehole has to be plotted in Geological Sections, waste encounter Boreholes are not shown in sections. Borehole Logs are not enclosed as Annexure.

MINING

13. Para a): Description of existing mining operations with dimension of quarries/pits should be given with no. of benches in ore and OB with their mRL etc.
14. Para c):- proper width of pit benches to be proposed. It should be more than its height.
15. Para d):- Proposed method of working with Sequence of different mining operations to be described.
16. Para e):- Pit road layout and detailed of transportation system to be given. Description of different mining machineries proposed to be deployed should be given with detailed calculation in respect of its adequacy and optimal utilization.
17. Para 1 f):- Conceptual Plan : Proposal of exploration/exploitation/ rehabilitation etc. after year 2017-18 (2018-19 onward) only to be discussed

MINE DRAINAGE

18. Para 3.d):- Make of water, arrangement of de-watering of pit etc. needs to be calculated based on annual rain fall and catchments area. Manner of discharging mine water & related environmental concern to be discuss. Existing arrangement and proposal for protective measures to control wash-off from mine discharged water should be given in quantified terms.

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

19. Existing mineral stacks mentioned within the lease area are reported to be waste/ mineral rejects. The same to be verified and then to be given in the text vis-à-vis that is actually available on the site.
20. Para a. : waste/ mineral rejects table to be corrected.
21. Para c. : This para needs to be re-casted, as there is no proposal of back-filling of waste generated.
22. Existing rehabilitation and protective measures taken around waste dumps like Retaining Wall, Garland Drain, Check Dams, Settling tanks, plantation/coir matting over dead end etc. should be given in quantified terms.
23. Further, aforesaid existing waste dumps are located over hill slope. Hence, adequate proposal of plantation over dead slope of dumps and protective measures to be given around waste dumps like Retaining Wall, Garland Drain, along with Check Dams, Settling ponds etc. to control wash-off material flowing outside. The same should also be given in quantified terms in text and to be indicated over Environment Plan & Reclamation Plan.

MINERAL PROCESSING

24. Para a.: Dry Processing/screening carried out/to be carried within the lease area to be discussed.

PMCP

25. Environmental baseline information based on environment monitoring report/data to be given. Mitigation measures of impacts associated with mining i.e. mainly related to air, water, noise, vibration, land, aesthetics etc. are to be elaborated.
26. In summary of PMCP table for Item No. 8.3, Cumulative actual achievement as on date and further proposal for 2017-18 to be given in quantified term. Under heading 'others', environment monitoring to be carried out should be given. Un-necessary details given to be removed.
27. Para 11.4: Disaster & risk assessment: risk analysis of different mining operations and safety management plan to be given.
28. Para 11.6: Financial Assurance: Financial Assurance area table to be given as per the guideline of "IBM manual on appraisal of Mining Plan-2014". F.A. rate to be corrected.
29. Original Financial Assurance as per MCDR 2017 should be submitted.

Enclosure:-

30. All the annexure to be properly indexed, numbered, paged and signed by the TQP.
31. Relevant pages of ML deed having ML area, Expiry date etc. to be enclosed.

PLATES:

32. Rule 31, 32 & 34 of MCDR,2017 to be followed for preparation of plans & sections.
33. 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.
34. 7.5 m statutory barrier along the ML boundary should be marked clearly over all the plans.
35. The surface details inside the lease area only be shown on the plans except in environment plan.
36. Environmental protective measures to be shown clearly over environment plan & reclamation plan
