

SCRUTINY COMMENTS ON EXAMINATION OF DRAFT MODIFIED MP IN RESPECT OF KUMARSWAMY Iron Ore MINE (ML.NO.1111) SITUATED IN SANDUR TALUK OF Bellary-DISTT OVER AN OF 639.80 Ha OF M/s NMDC Limited.

Cover Page:

1. Name of the document may be corrected as “*Second modification to the approved review & updation of Mining Plan*” at all relevant places in the text, plates and consent letter.
2. Mine Code and IBM Registration No may be given.
3. Period of Review & updation of Mining Plan, First modification & Second modification period may be clearly given, order wise.

Introduction:--

4. Status of approval of modified R & R plan after revised CEC’s production limit of 7 MTPA has not been discussed.
5. State wise leases already held by the applicant/ applied for indicating type of minerals, area, location etc. to be furnished in the appended table.

Sl No	Lease reference no. & date	Area	Postal address /location	Type of minerals	Working /Non working	Status of approval of Mining Plan	Date of execution & dt.of expiry	Remarks

6. **Para 1(a):** The registration No. under rule 45 of MCDR 2017 should be checked and corrected as “IBM/270/2011”.

7. **Para 2(a):** The related enclosed documents regarding nomination of Shri B. Sahoo, General Manager for singing document may also be referred under this para.

8. **Para 3.3:** (i) The reasons for deviation in exploration during year 2017-18 against proposal has not been discussed (ii) The location of dumping of wastes and reasons for deviation in generation of wastes during year 2017-18 against the proposals have not been discussed. (iii) The review of afforestation & other protective measures during year 2017-18 against PMCP proposals and reasons for deviation, if any, have not been discussed.

Part-A

Geology & Exploration:--

9. **Para 1(c):** (i) Average Lumps and fines ratio of mine may also be mentioned. (ii) As per recent notification of threshold value of minerals dated 25/04/2018, presence of “Hematitic Siliceous ore (+35 % Fe) if any in the mine should be discussed with enclosing the chemical analysis reports. If available, the quantity of the same should be assessed accordingly.

10. **Para 1(e):** The details of exploration carried out after approval of modified Mining Plan dated 6/7/2017 should be clearly mentioned.

11. Para 1(i): Total mineralized area, non-mineralized area and lateral extent of area covered under G-1 and G-3 level of exploration should be clearly mentioned. Further, G-1 level of exploration should be proposed over the entire potentially mineralized area during this plan period as per rule 12(4) of MCDR 2017. The grand total of the areas to be explored during year 2018-22 at table No-10 should be checked and corrected.

12. **Para 1(j):** (i)The final reserves and resources figures as per last approved modified MP dated 6/7/2017 should also be mentioned. (iii) The reasons for enhancement of reserves and resources as compare to last approved document should be properly justified.

(ii) The level of exploration & resource mentioned at Table no 15 to be should be revised w.r.t. final table & Geological axis as discussed during site inspection.

13. Para 1(k): (i) Different Bulk density considered for assessment of the reserves/resources for sections should be properly justified. Recovery factor & Bulk density considered for assessment of reserves and resources should also be determined based on field tests conducted, actual mining & confirmed. Abnormal BD mentioned at table no-22 should be checked and corrected. (ii)The figures of waste assessment at table No-20 (B-block) are not matching. The same should be checked and corrected. (iii) The grand total of G-3 resources in the mine should be checked and corrected as 20.04 million tonnes. Accordingly necessary correction should be made in this chapter and Feasibility study report.

14. Para 1(1): (i) Sub-paras (a) to (c) as per Universal Format have not been discussed. (ii) The resource mentioned at Table no 25 to be should be revised w.r.t. final table & Geological axis as discussed during site inspection. (iii) Date estimation of reserves & resources should be checked and corrected as **1/4/2018** in Table no 26. Further, 333 resource figure should be checked and corrected as 20.04 million tonnes.

15. Para 2.0(a): (i)Mining: Item-heads/ paras/ sub-paras under this chapter are not furnished as per the standard guidelines as given in “*IBM Manual on Appraisal of Mining Plan 2014*”.The relevant information may be given as per the requirement under paras/ sub-paras in a systematic manner. (ii)In the proposed method of Mining during the period F.Y 2017-18 to F.Y 2021-22, opening of the 3rd pit in C Block has not been discussed. (iii) The bench height has been mentioned as 6-12 Mts & details have been given under drilling equipment, however there is no proposal of increasing the bench height in this modified plan period, as per the bench wise, RL wise production & development plan.(iv) In extent of Mechanization ,the total quantity of material proposed to handled by hired machinery and departmentally may be given and adequacy of drill, excavator and dumper/tippers may be calculated based on the maximum total material handled separately.(v) The handling capacity per hour of 1 to 1.2 cu. Mts Excavator may be verified once again.190 TPH is on the higher side. The thumb rule is of 100 to 120 TPH.

16. Para 2.0 (b): (i)Insitu tentative excavation, the information may be given in the table appended for all the five years. The Bulk density may be mentioned for converting into Tonnage & Recovery % to be mentioned in the table itself.

Year	Pit No/Block No	Total tentative excavation (Cum/Tons)	Top Soil (Cum/Tons)	OB/SB/IB (Cum/Tons)	ROM (Cum/Tons)		Mineral reject	ROM/Waste Ratio
					Or	Mineral reject		

(ii) The units has not been mentioned in Table No.36-40. All the datas may be given in Lakhs Tons.

(iii) The tonnage conversion factor (TCF) or Bulk density and recovery factor of each of the material handled in the mines may be established on time series or substantiated by study report.

(iv)Table No 42 & 43 may be deleted.

17. **Para 2(c)**: The details of the proposed waste handling year wise may be given a tabular column indicating the year, dump no., proposed quantity, Location of the dumps, area covered ,no of terraces proposed, height of each terrace, slope angle ,advancing/retreating, inside/Outside UPL and method of stabilization. The same may be marked in the respective plates as well.

18. **Para 2 (f)**: The conceptual mining plan proposals should be end of ML period i.e. 17/10/2022. Accordingly, the proposals should be modified including Table no 53. The possibility of renewal of ML under rule 3 (2) of Mineral (Mining by Government Company) Rules 2015 may be mentioned.

19. **Para 3**: This chapter should be discussed/ presented as per sub-para (a) to (d) of universal format.

20. **Para 4**: (i) This chapter should be discussed/ presented as per sub-para (a) to (c) of universal format. (ii) As per recent notification of threshold value of minerals dated 25/04/2018, presence of "Hematitic Siliceous ore (+35 % Fe) if any in the mine should be discussed with enclosing the chemical analysis reports. If available, the stacking/utilization of the same should be also be discussed. (iii) The proposals completed in year 2017-18 should be incorporated at table no -59 and reconciled.

21. **Para 5**: The economic cut-off grade and utilization of ore above threshold hold value should also be discussed.

22. **Para 6**: This chapter should be discussed/ presented as per sub-para (a) to (g) of universal format.

23. **Para 8.1**: The environmental monitoring stations in core & buffer zone may be given in a tabular column.

24. **Para 8.3.5 (table no-65)**: (i) Actual Afforestation and other protective measures as on 1/4/2018 should be mentioned instead of proposals in year 2017-18 as financial year 2017-18 completed.(ii) The proposed R & R measures within ML may also be incorporated in relevant items.

Part-B:--

25. **Certificate of Lessee**: The condition of CCOM circular No:-2/2010 should be incorporated, in case of non-compliance, If complied, the necessary plans should be enclosed in support.

Annexures:

26. Enclosed boreholes logs should be signed by Geologist/QP.

27. Few photographs of pits, dumps, afforestation and other protective measures, corner BPs have not been enclosed.

28. **Feasibility study report**: (i) The updated modified reserves/resources figures should be incorporated. (ii) The report should be signed by QP.

29. Notice of sinking of boreholes (in Form-J/I) submitted to IBM has not been enclosed.

Plates:

30. Longitudinal Geological section has not been enclosed.

31. **Key Plan** (Plate No-3): (i) Environmental monitoring stations have not been marked. (ii) Table of villages in buffer zone, population, and distance from ML etc has not been incorporated.

32. **Surface Plan**: (i) Date of survey has not been mentioned. (ii) Nomenclature of active dumps has not been given (iii) Table of DGPS co-ordinates of corner BPs may also be incorporated.

33. **Plate No 4**_(Geological Plan): (i) UPL to be properly mentioned at index (ii) Area covered under G-3 level of exploration should be marked on the plan.

34. Production & Development plan (Plate No.6to 13): The movement & direction of production & development benches may be shown with respect to the previous year by superimposing and promptly showing the proposed working benches. The waste dump needs to be marked appropriately giving the dimension as enumerated in the text year wise including the no of terraces proposed.
35. Year-wise build of dump sections has not been enclosed.
36. Unit should be mentioned at incorporated production and development table.
- 37. Plate No 14 & 15**(Geological Cross sections): (i) Proposed BHs should also be marked at sections with dotted lines. (ii) UPL to be properly mentioned at index.
- 38. Plate No.16 (Conceptual Plan)**: The conceptual plan should be modified as per scrutiny comments at para 2(f) and supported by sections. Further, table of land use pattern at end of conceptual period /lease period may also be incorporated in the plan.
- 39. Plate No. 17**: (i) This plate should be renamed as "Reclamation plan". (ii) Environmental monitoring stations have not been marked.
- 40. Environmental Plan (Plate No- 18)**: (i) This plan should be as per rule 32 (5) (b) of MCDR 2017 with inclusive of the adjoining area within five hundred meters of the boundary of the lease area (ii) contour lines should at five meter intervals. (iii) Proposals need not be shown in this plan. (iv) Water course/drainage direction to be marked.
