

**Scrutiny Comments on draft ‘Review & Updation of Mining Plan’ in respect of Kumarswamy Iron Ore Mine, ML No.1111 of M/s NMDC Limited covering 639.8 Ha of area in Deogiri Village, Sandur Taluk , Ballari District of Karnataka State.**

- *The Consent letter/Undertaking /Certificate from the lessee & qualified person may be digitally signed and enclosed.*
- *The format of the New Mining Template & para wise numbering may not be changed.*
- *No cells may be left blank. Either “Nil”or”Not applicable” may be furnished.*
- *Lease deed is valid only upto 17.10.2022, the extension of the lease deed may be submitted before the approval of the RMP. Other statutory valid clearances may be furnished for the proposed RMP period.*
- *Spelling mistakes may be corrected at all places in the document.*
- *Annexure no. may be given for the attachments enclosed as annexure.*

**CHAPTER-1-GENERAL INFORMATION**

1. Para- 1.1: (i) Name of the mineral & associated mineral may be furnished as per the mineral given in the lease deed. (ii) Five year block period (Financial Year) for which the RMP is submitted may be given.
2. Para- 1.1.1: Under lease deed execution date , date of the initial grant may be specified.
3. Para 1.1.2: (i) Type of document submitted may be given. (ii) Since the document submitted is for Review & Updation of Mining Plan, reasons for modification & period for which modification is proposed may be deleted.
4. Para 1.3: Date of initial execution of the lease may be furnished.
5. Para 1.3.1: Lease grant details since the initial grant and subsequent renewals may be furnished in chronological order along with other details as per the format.
6. Para-1.3.4:The details of the permissible annual production as per the CEC should also be furnished under this Para. Also, the details of the CEC approval Letter no, date, Permissible annual production etc. to be given under this Para. The related documents to be attached as Annexure and reference to be given.
7. Para 1.3.4.2: The details of the CFO may be furnished instead of CFE along with updated validity period.
8. Para 1.3.4.3: Clarification may be furnished on forest clearance of 341.2 Ha of total 487.79 Ha of forest land. The same may be shown in the respective plans & sections as well.
9. Para 1.3.6: PAN of Nominated Owner may be given. The List of members of Board of Directors should also be enclosed and reference to be given in this Para.

**CHAPTER-2-GEOLOGY AND EXPLORATION**

10. Para 2.1.2: (i) Location of the physiographic features and infrastructures available within the lease area / block area may be furnished. The same should be clearly demarcated on the enclosed Key Plan. (ii) Details (name) of Physiographic features and Infrastructures available in and around the lease/ block area (within 5 KM) may be furnished in remarks column.

11. Para 2.1.3: (i) Regional Strtigraphy of the area may be provided as an Annexure and the Annexure number may be referred in the Text.(ii) The word **Laterization** may be corrected under point (iii).
12. Para 2.1.4.3: Nature of occurrence of other lithologies along with foot wall and hanging wall rock may be described. Different type of iron ore available in the lease, their field occurrence, petrological characteristics and percentage of incidence of each type of ore may be given. Lumps and fines percentage of iron ore may also be provided.
13. Para 2.1.4.7: Extent of Mineralization: (i) There are 05 different ore bands, however details of the ore bands and their location, dimension (L x W x D), etc. are not furnished. (ii) The strike length of 'C' block deposit is 3500m and the strike length of B block deposit is 1200m. Hence this may be corrected.
14. Para 2.1.4.8 : The amount of dip of the ore body may be given as **from 20° to 30°**
15. Para 2.2.1.4: Since no Geochemical Survey has been carried out in the mine, the analysis reports may be deleted from this section & placed at appropriate section/para.
16. Para 2.2.1.10: The core /non-core samples information may be provided in CSV/excel file which shall normally include Five files namely (a) collar file, (b) survey file and (c) Geology log file, (d) Assay file and (e) RQD File. The file formats are as follows:

**(a) Collar file**

Hole_id*	Latitude	Longitude	Altitude	Max_depth	Hole_path (linear/angular)	Date of drilling

**(b) Survey file for drill holes**

Hole_id	Depth	Dip	Azimuth

**(c) Assay file**

		radicals analysed (specify name of radical as an example given below)					
Hole_id	Depth_from	Depth_to	Fe	SiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	LOI	P

**(d) Geology file**

Hole_id	Depth_from	Depth_to	Lithological Description

**(e) Rock Quality Designation (RQD) File**

Hole_id	Depth_from	Depth_to	RQD%

*\*Hole ID should tally with the surface geological plan as available in the latest approved mining plan*

17. Para 2.2.1.13: (i) Method adopted for calculating bulk density of ore and waste as per Minerals (Evidence of Mineral Contents) Rules, 2015 may be furnished. (ii) The no of samples collected for BD analysis for each of the material may be furnished including waste/OB. (iii) The NABL certification of the laboratory along with the scope of test works for the lab, which includes Bulk density testing, may be enclosed in annexure.
18. Para 2.2.2.1: Scale of Geological Mapping may be given clearly.
19. Para 2.2.2.5: Since 30 pits have been done, all the details there of may be furnished as per the prescribed format.
20. Para 2.2.2.7: (i) The year furnished in Row 2 & 3 may be corrected. (ii) Only the details of the boreholes drilled inside the lease area may be furnished & the same may be shown appropriately in the Geological Plan. Necessary corrections may be done in the number of bore holes & total meterage.
21. Para 2.2.2.9: The area covered under sampling & their locational grids may be furnished.
22. Para 2.2.2.10: Chemical analysis of the sampling done under para 2.2.2.9 may be given & enclosed as annexure.
23. Para 2.2.4.2: In this para only the reserve calculation may be furnished.
24. Para 2.2.5.2: ) Reserves/Resources should also be estimated for siliceous Hematitic ore of grade +35% Fe, as per the notification of IBM dated 25.4.2018.
25. Para 2.2.5.9: In this para only the section wise calculation of resources including blocked resources may be furnished aligned with para 2.2.5.11.
26. Para 2.2.6: Future exploration proposals for 40.23 Ha of unexplored area may be furnished with relevant datas.

### **CHAPTER-3-MINERAL BENEFICIATION/PROCESSING**

27. Under this chapter the name of the ore may be changed to Iron Ore.
28. Para 3.1: All the major radicals with approximate percentage of mineral content including gangue may be furnished.
29. Para 3.2: Complete chemical analysis of ROM ore may be furnished.
30. Para 3.9: The quantity of water required in Cum/day for mining & allied activities process like dust suppression, drilling, plantation, domestic purpose like vehicle washing, drinking etc. details to be given under this Para. The details regarding source of supply of water, disposal of water, extent of recycling, chemical analysis of water should be given under this Para. The Water balance charts to be prepared accordingly and may be added in annexure and reference to be given under this Para. The water requirement should be within the EC & CFO permissible limits.

### **CHAPTER-4-MINING OPERATIONS**

31. Para 4.1.1: Under existing method of mining “Mechanized” may be selected.
32. Para 4.1.2: Since the existing & proposed method of mining is same, reasons for proposed changes may be corrected accordingly. Changes proposed within the ML area if any may be mentioned here.

33. Para 4.2.1.2.1: (i) Total quantity (Tons) of each of the dump along with their locations may be furnished.(ii) The no. of terraces may be given under height column.(iii) The details of Mineral stacks lying in the mine may be furnished as per the format.
34. Para 4.2.2.1: (i)The maximum depth of working may be furnished in mRL aligned with the production & development plan & sections.(ii) Plate nos. of the proposed year wise development & production plan & year wise development & production section may be furnished.
35. Para 4.2.2.2: Year wise opencast development proposals may be furnished.
36. Para 4.3.2: The total quantity of ROM proposed may be aligned with the EC & CEC capacity of the mine. Accordingly necessary corrections may be done at all the relevant places in the text. The same needs to be updated in the respective plans & sections as well.
37. Para 4.3.4: Financial year may given in the year column instead of Year 1, 2....5.
38. Para 4.4: Machine Calculations may be corrected as per the comments placed at para 4.3.2.
39. Para 4.7.1: (i) Under waste management since existing dumps are proposed in the plan period, the details of the proposed area, height, quantity & location may be furnished as per the format.(ii) Similarly the proposed minerals stack details if existing stacks are used & the details of new stack may be furnished.
40. Para 4.9: Under use of Minerals, the physical & chemical compositions may be furnished. It is pertinent to mention here the use of minerals of less than 58% Fe.

#### **CHAPTER-5-SUSTAINABLE MINING**

41. Para 5.1- (i) It should be specifically mentioned under this Para ‘ Sustainable Mining and SDF implementations during the plan period will be carried out in accordance with Rule 35 of MCDR 2017’.(ii) SOP of Compliance of Vishakha Committee Guidelines for prevention of women harassment at workplace may be annexed as annexure.

#### **CHAPTER-6- PROGRESSIVE MINE CLOSURE PLAN**

42. Para 6.1: The area given under stabilized waste dump rehabilitated & virgin area under green belt may be verified & corrected.
43. Para 6.2.2.1.2:The proposed area of coarse gravel bed for Ground water recharging may be made bigger in size. The same may be corrected.
44. Para 6.2.2.2.2 & 6.2.2.2.3: The coordinates of proposed retaining wall & garland drain may be given in WGS 84 datum.
45. Para 6.2.3: The area mentioned under green belt development is not aligned with the last approved mining Plan. The same may be reviewed & corrected.
46. Para 6.2.3.2: The location of the proposed plantation year wise may be furnished & marked on the PMCP plan & sections.
47. Para 6.2.6.2: Cumulative work done as on Date wrt recreational facility may be furnished as per the format.
48. Para 6.2.6.3: The location of the proposed year wise recreational facility may be given & shown in the PMCP plan & section.

49. Para 6.2.7: Dump Area Stabilization & Development may be filled up correctly & all the information may be provided as per the format.
50. Para 6.2.9.2: In the plan period there was no proposal of top soil generation, hence year wise proposal & use of top soil may be given as “nil”.
51. Para 6.2.11: Land use of lease area at the expiry of lease period (conceptual stage) may be corrected as per the latest approved document.

#### **CHAPTER-7- FINANCIAL ASSURANCE/PERFORMANCE SURETY**

52. (i) Land use particulars may be given year wise for 5 years. (ii) The land use pattern at the start of plan period may be verified & corrected & accordingly bank guarantee may be paid. (iii) The amount of bank guarantee furnished may be verified & corrected. BG No. & validity may also be furnished.

#### **CHAPTER-8- REVIEW OF PREVIOUS PROPOSALS**

53. Para 8.1.1: Lease area utilisation as per the approved plan wrt to others (Plantation) may be corrected & reasons for deviation may be given correctly.
54. Para 8.1.2: Since the last approved document didn't have SDF proposals, accordingly it should be mentioned “Not applicable” under this para.
55. Para 8.2.1: (i) Year wise review of exploration may be furnished.(ii) All the details like grid, upgradation of G axis ,area converted under G1 from G2/G3 may also be furnished.
56. Para 8.2.2 to 8.2.8: Year wise review of mine development, mining operations (dump mining), zero waste mining, production of minerals, handling of mineral rejects & environment compliances may be reviewed & corrected as per the last approved mining plan.
57. Para 8.3: Since there were no proposals in the last approved plan period under Socio-Economic, accordingly under para 8.3.1, 8.3.2, 8.3.3.1, 8.3.3.2, 8.3.3.3, 8.3.3.4 & 8.3.3.5 it should be mentioned “Not applicable”.

#### **58. PART-C, PLANS & SECTIONS:**

- a) **Hard copies of all the plans may be submitted in .dwg format with UTM grids (WGS 84 datum) only. Soft copies of the same may be submitted in KML/SHP format.**
- b) **The plan submitted in SHP format does not contain any attribute data. Line, polygon & point feature should be in separate file with all the necessary information.**
- c) The numbering of plates has not been sequentially maintained as per the format. Numbering of plates to be specifically maintained as per the format. Any additional plates enclosed may be followed after plate no 11 with corresponding details.
- d) All plans and sections should be signed with date by certified surveyor, Qualified Person, Geologist, Mining Engineer as per provisions of MCDR 2017.

- e) "Fourth modification to..... and updation of Mining Plan" may be deleted in all the plates wherever it is mentioned. In the title box, " Review and Updation of Mining plan" may be added as Title with period in all the plates.
- f) Key Plan may be enclosed.
- g) Surface Plan: The surface plan may be drawn showing the green belt, mineral stack, reclaimed & rehabilitated area stabilized dumps aligned with the financial assurance table showing different colour codes.
- h) Geological Plan: (i) The plan is prepared on scale of 1: 5000 and the geological sections have been prepared on the scale of 1 :2000. It should be in natural scale. The geological plans may be prepared block- wise on 1 : 2000 scale and the sections should be prepared on natural scale i.e., 1: 2000 scale. The legend should be the same on plan and sections. Nomenclature of all section should be end to end of the section. (ii) All the area under different level s of explorations may be shown & indexed accordingly.(iii) Future exploration proposals may be shown & indexed.
- i) Geological sections: The geological sections may be prepared based on the geological plan & comments mentioned above.
- j) Production and Development Plans:(i)Period of proposal of production and Development Plan has been mentioned as started from 2021-22. Last plan period was from 2017-18 to 2021-22.The present draft Review and Updation of Mining Plan has been submitted for the period of 2022-23 to 2026-27. The reason may be explained why RMP has been submitted for six years. The specific year of working proposals have not been mentioned in the legend. (ii) The statutory boundary of 7.5m along the lease boundary has not been shown in the plates. (iii) Surface litho units may be shown in the plans. (iv) The no of benches with their respective mRL's proposed in the ore & ore pit wise & block wise may be verified & redrawn as per the information provided in the text. (v) The year wise progress of dump & mineral stacking may be shown properly. The OB dumps proposed may be aligned as per the approved R & R Plan.
- k) Production & development sections: Separate year wise, pit wise, block wise proposed production & development sections may be furnished.
- l) Progressive mine closure plan & Section: (i) This plans needs to redrawn as per the information furnished in the text showing all the proposed PMCP activities with different colour coding & indexed accordingly.(ii) In this plate only the proposed engineering environmental measures like construction of retaining wall, garland drain, plantation may be shown & indexed accordingly
- m) Conceptual Plan: In the conceptual plan, rain water harvesting pond & backfilling is shown but there is no mentioned of the same in the text. The same may be attended.
- n) Conceptual sections: This plate may be drawn as per the proposal furnished in the text & conceptual plate furnished.
- o) Financial assurance plan may be enclosed.
- p) Dump management Plan & section: Separate plate of OB dump (3 dumps) management plan & sections may be given.

59. **PART- B, ANNEXURE:**

- a) The numbering of annexures has not been sequentially maintained as per the format. Any additional annexures enclosed may be followed after annexure no 18 with corresponding details. All the annexures as mentioned in above scrutiny comments of different chapters to be enclosed. Also, corrections in the annexures, as mentioned above in scrutiny comments of different chapters to be incorporated and corrected annexure to be enclosed.
- b) Valid Consent to operate for total proposed permissible production quantity to be enclosed.
- c) The 106(2)(b) permission from DGMS for working with Deep hole drilling and blasting with use of heavy machineries under MMR 1961 as mentioned above may be enclosed.
- d) Year wise, section wise, block wise calculation of production & development may be furnished aligned with the information given in chapter no.5.
- e) All the annexure to be properly numbered/ paged and relevant annexure to be signed by QP. The Page no range should be accordingly given in list of Annexures. All the annexures should be legible.

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