

Scrutiny comments on examination of Mining Plan of Kalay Iron Ore Mine (Amalgamation of two leases) over 179.1826 ha. [ML No.-02/AMLG(MI-2)/NSN/17] of Late N.S. Narvekar in South Goa District of Goa state

Text:

GENERAL

1. Since the lease is not a fresh grant, the instant submission of MP should be Modification of Mining plans (MMP) under Rule 17(3) of MCR-2016 in view of Amalgamation of two leases. The proposal should be given up to approved Mining Plan block period only i.e. up to 2017-18.
2. As mentioned, Lessee was an individual late N.S. Narvekar and now represented through his legal heirs, i.e. a partnership firm of legal heirs M/s N.S. Narvekar Minerals. As per copy of partnership deed enclosed, there are four partners, comprising of five legal heirs. However, Enclosed Undertaking/certificate/consent in respect of preparation of this MP is signed by only one partner/legal heir. The same should be signed by all the partners/ legal heirs. If one partner is authorized, then Copy of resolution of partners regarding authorization of one partner as nominated owner of the mine to be enclosed. te/consent etc. should be signed by the nominated owner/authorized partner only, alternatively by all partners. Photo id of the partners/authorized partner/nominated owner to be enclosed.
3. In Enclosed Undertaking/certificate/consent etc. from lessee, Signing date is not given.
4. Status of all statutory clearances obtained should be given in 'introduction' along with documentary proof as enclosure. Change/modification required to be carried out in statutory clearances in view of amalgamation should also be mentioned in 'introduction'.
5. Para 1. b): In status of lessee, Association of Individual is mentioned ; whereas in enclosed copy of partnership deed, lessee as a partnership firm i.e. M/s N.S. Narvekar Minerals is mentioned. In enclosed copy of partnership deed and Gazette notification, one name of legal heir is mentioned differently.
6. Para 2. b): ML is the name of late N.S. Narvekar. Whereas in details of ownership of land name of different individual and companies/firm are given. The same to be clarified. Further area acquired by lessee to be clarified along with documentary proof as enclosure.
7. Chapter-3: Para 3.3: Page 13 and 14: Waste Generation instead of Development and ROM instead of Production to be mentioned.
8. Chapter-3: Para 3.4: Status of compliance of violations pointed, up to preceding month for 2017-18, to be given.
9. Chapter-3: Para 3.6: Reason and Justification for submitting this modification of MP to be given in detail.

Geology:

Review of approved proposal:- i) The reason given for not conducting exploration as per the proposal cannot be considered. The proposed exploration should be completed in the present plan period only.

Geology and Exploration:- i) Highest and lowest R.L's given under topography of the lease area need to be rechecked and corrected. ii) In the table given at page no-29 under unexplored area no of boreholes drilled are shown as 15. This is needs to be rechecked and corrected. iii) Under the details of samples analyzed number of core samples, face samples, chip samples

analyzed so for needs to be discussed. iv) Entire mineralized area to be explored under G-1 level of exploration in the grid pattern suitable for type of the deposit as per Minerals (Evidence of Mineral Contents) Rules 2015 and as per Rule 12 of MCDR 2017. In the modification of approved mining plan number of boreholes proposed to drill in the approved plan should not be changed. v) As per the MEMC Rules 2015, depth below the drilled borehole cannot be taken for estimation of reserves/resources and lateral extension from the last boreholes cannot be taken more than 50% of grid spacing for estimation of resources. So resources estimated under 334 category should not be considered and resources estimated under 333 needs to be re-estimated by taking boreholes influence as per MEMC rule 2015. vi) At page no-34 while justifying proved mineral reserves (111) it is stated that lateral extension from last borehole and depth below the drilled borehole is considered 25%. As per MEMC rules lateral extension and depth below the drilled borehole cannot be taken for estimation of reserves. Accordingly reserves needs to be re-estimated. vii) The justification given for reserve/resources estimation should be modified based on re-estimation of reserves/resources. viii) The bulk density and recovery factors should be taken based on the test conducted for different type of ores. ix) Log sheets of all the boreholes considered for reserves estimation needs to be furnished.

MINING

- 10.** Para a): In proposed Mine workings, only brief Sequence of different mining operations should be described. Detailed proposed Mine workings to be described in subsequent Para - c) & d). Existing Waste Dumping and Protective Measures details to be given in waste dumping Chapter.
- 11.** Para b) As per guideline of "IBM manual on appraisal of Mining Plan-2014", a NOTE to be added below the proposed year wise excavation summary Table (given in Cubic m), before arriving the year-wise tentative tonnage, considering recovery % and Bulk-Density based on time series data and samples test.
- 12.** Para b, c & d) ref. with Development plan & Sections:- Year-wise excavation/development proposal to be given for prospective period of 06 months only from Oct.2017 to March 2018 (Fy-2017-18). Temporary Backfilling/dumping of waste is proposed at four different places in scattered and unsystematic manner. Hence, in the interest of systematic & scientific mining and mineral conservation, entire proposal for temporary Backfilling/Dumping should be given in eastern side of pit no.-1 adjacent to already back-filled area near Dump no.6 in consolidated manner. As reported, rest of the proposed backfilling area has not been explored fully yet. Hence, dewatering and exploration proposal should be given in this area; further planning may be given accordingly after outcome of exploration.
- 13.** As per Surface Plan & Environment Plan, Excavation and Dumping were carried out in 7.5 m statutory barrier along the ML boundary at many places. Permission from competent authority regarding the same to be enclosed and also it is to be clarified that when the same was carried out.
- 14.** Para e) : Layout of mine workings should be given in detail along with optimum selection of mining Machinery and pit road layout. Description of different mining machineries proposed to be deployed to be given with its rated capacity along with detailed calculation in respect of its adequacy and optimal utilization. Waste Dumping and Protective Measures proposals to be given in details in waste dumping Chapter.
- 15.** Conceptual Plan : Proposal of exploration/exploitation/ rehabilitation etc. after year 2017-18 (2018-19 onward) to be discussed.

16. In view of the above, this chapter needs complete recasting.

MINE DRAINAGE

17. Most part of pit bottom observed to be sub-merged by water. However this chapter is not dealt with properly.

18. Para 3.a. : minimum & maximum depth of ground water table to be given clearly.

19. Para 3.c):- 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 discussed.

20. Para 3.d):- Mine is having large catchment area with undulating terrain and substantial quantity of rain water be flowing through the lease area. One river also exists adjacent to the lease area. However, adequate rainwater management plan i.e. drainage plan along with arrangement for arresting solid wash off is not incorporated. Therefore, adequate rainwater management plan i.e. drainage plan along with arrangement for arresting solid wash off should be given. Existing arrangement and proposal for protective measures to control wash-off from mine discharged water should be given in quantified terms.

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

21. Para b. : Temporary Backfilling/dumping of waste is proposed at four different places in scattered and unsystematic manner. Hence, in the interest of systematic & scientific mining and mineral conservation, entire proposal for temporary Backfilling/Dumping for a short period should be given in eastern side of pit no.-1 adjacent to already back-filled area near Dump no.6 in consolidated manner.

22. In view of above, Configuration and sequence of back-filling & its build up to be described in detail with manner of disposal of waste in stages/terraces.

MINERAL PROCESSING

23. Dry Processing carried out/to be carried within the lease area to be discussed with material balance chart and flow sheet.

PMCP

24. Para 8.4: Disaster & risk assessment: risk analysis of different mining operations and safety management plan to be given.

25. Para 8.6 : Financial assurance: Most of the ML area is utilized by mining and dumping. However, 39.5 ha. area mentioned as un-utilized. Hence, the Area considered for financial assurance should be verified /rechecked, and financial assurance to be paid accordingly.

Enclosure:-

26. Annexure given are not paged and page no. is also not mentioned with Annexure nos. in the Index. All the annexure to be properly indexed, numbered & paged and signed by the TQPs.

27. Relevant pages of ML deeds having ML area, Expiry date etc. to be enclosed.

28. Copy of amalgamation of MLs order/deed to be enclosed.

PLATES:

29 Geological plan & Cross section:- i) Area explored under different level of exploration is not shown properly. Area explored under G-1 & G-4 levels are overlapping. ii) On geological cross sections UNFC codes should be corrected as per the scrutiny comments given for re-estimation of reserves in Reserves chapter. iii) Color codes given for different lithounits should be same both in plans and cross sections.

- 30** Rule 31, 32 & 34 of MCDR, 2017 to be followed for preparation of all plans & sections.
- 31** 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.
- 32** 7.5 m statutory barrier along the ML boundary should be marked clearly over all the plans. Bio-fencing Zone should be marked over all the plans and to be marked in index as 1 km Buffer zone from Bhagwan Mahaveer Wild Life Sanctuary (No Mining Zone). MOEF Letter for demarcation of Bio-fencing and Letter of Joint Survey with State Government and Forest Department for Bio-fencing to be enclosed. Details and Status as on date of Bio-fencing in 1km zone also to be given in introduction.
- 33** Area Demarcated for proposed temporary backfilling to be shown over the development & reclamation plan clearly.
- 34** Drainage pattern should be clearly marked on reclamation plan.
- 35** Plantation and Protective Measures existing and proposed to be shown prominently over Reclamation plan in different colours.
- 36** Over FA Plan : Existing and proposed land use to be shown clearly in distinct colours.
- 37** All plan and section should be modified/ rectified based on above scrutiny points.
