

भारत सरकार  
खान मंत्रालय  
भारतीय खान ब्यूरो  
क्षेत्रीय खान नियंत्रक का कार्यालय

No. MPM/FM/26-ORI/BHU/2016-17

Plot No. 149, Pokhariput  
Bhubaneswar – 751 020  
Date: 20.01.2017

To

✓ Shri Sanjay Pratap, Director  
M/s Orissa Manganese & Minerals Ltd,  
IPICOL House, 3rd Floor, Annexe Building,  
Janpath, Bhubaneswar-751022.

Sub: Approval of Modification of Mining Plan along with Progressive Mine Closure Plan under Rule 17 of MCR, 2016 of Patmunda Manganese Mine of M/s Orissa Manganese & Minerals Ltd over an area of 807.3160 ha in Sundargarh district of Odisha.

Ref: - i) Your letter No. OMM/BBS/4246/2017 dated 02.01.2017.  
ii) This office letter of even no. dated 04.01.2017.  
iii) This office letter of even no dated 04.01.2017 addressed to Director of Mines, Government of Odisha copy endorsed to you.

Sir,

This has reference to the letter cited above on the subject. The draft of Modification of Mining Plan along with Progressive Mine Closure Plan (PMCP) has been examined in this office based on site inspection carried out on 18.01.2017 by Shri Ramkishan R, Senior Assistant Controller of Mines. The deficiencies observed are enclosed herewith as Annexure I.

You are advised to carry out the necessary modifications in the draft Modification of Mining Plan along with Progressive Mine Closure Plan in the light of the contents vide Annexure I and submit **three (3) firm bound and two (2) soft copies of the document text in CD in a single MS Word file (the drawing/plates in Auto CAD compatible format or JPG format in resolution of 100x100 pixels on same CD )** with financial assurance under Rule 23 F of MCDR 1988 of the Modification of Mining Plan within **15 (fifteen) days** from the date of issue of this letter, for further necessary action. If the total page of annexures exceeds 50 (Fifty) then it should be submitted as separate volume. But reference of these annexures must appear in the Modification of Mining Plan document. The plates are also to be submitted in separate volume.

The para-wise clarifications and the manner in which the deficiencies are attended should invariably be given while forwarding the modified copies of the Modification of Mining Plan along with Progressive Mine Closure Plan. It may be noted that no extension of time in this regard will be entertained and the Modification of Mining Plan along with Progressive Mine Closure Plan will be considered for rejection if not submitted within above due date . It may also be noted that if the deficiencies are not attended completely, the submission would be liable for rejection without further correspondence.

भवदीय / yours faithfully,

  
(HARKESH MEENA)

क्षेत्रीय खान नियंत्रक / Regional controller of Mines

**Scrutiny comments in respect of Modification of Approved Mining Plan of Patmunda Manganese Mine, M/s OM&ML in district Sundargarh of Odisha**

**Text:**

**GENERAL**

1. The cover page title shall be rectified as modification of mining plan submitted under Rule 17 of MCR, 2016 and rest of the part is same.
2. The lessee is private company or private individual shall be clarified.
3. Access routes to the lease area on topographical map shall be shown.
4. Proofs of documents submitted in regard of lessee are not legible, proper documents may be submitted.
5. All annexures & chapters shall be properly indexed.
6. Applied RML boundary was shown in the plans, but no information is given in regard to the matter. As it is a proposal only and as on date the entire ML area is with the lessee only. So it shall be removed from the plans and sections.
7. The details furnished in 2016-17 year regarding production, exploration etc shall be mentioned up to which month of 2016-17. The grade of mineral production and dispatches shall also be furnished against the given quantities.
8. Documentary evidence shall be given regarding the surface right area (710 ha) obtained from state government. Documentary evidence shall be given regarding the suspension and re-opening of mine from 17/05/2014 to 09/06/2015.
9. Proper justification shall needs to be given for deviation of all proposed programmes viz., exploration, production, back filling, dump re-handling etc. during last approved mining scheme period.
10. Concerned reports regarding the environment monitoring shall be annexed. Photographs regarding achievement in afforestation, dump handling etc. shall be annexed.
11. Justification shall needs to be given for modification of mining plan.

**GEOLOGY AND RESERVE**

12. Documentary evidence shall needs to be given (like log sheets of boreholes, sample reports etc.), who have carried out exploration work in the said area for the entire exploration carried out till date. Details of samples analysis indicating type of sample (surface/sub-surface from pits/trenches/borehole etc) complete chemical analysis for entire strata for all radicals maybe undertaken for selected samples from a NABL accredited Laboratory or Government laboratory or



equivalent. Entire mineralized area may be analyzed meter wise with 10% of check samples. (At least for 10% of total samples may be analyzed in accordance to BIS and reports from NABL accredited/other government laboratory).

13. Estimation of reserves / resources shall be done as per UNFC classification of the area. Justification shall be given in the decrease of estimating the mineral reserves / resources to present and earlier scheme of mining. Specific gravity considered for estimation of reserves / resources for different types of mineral (Manganese and Iron) is to be mentioned with proper justification for saleable ore and mineral reject.
14. Due to deviation in proposed exploration, future exploration programme shall be reviewed so that the potential mineralised area under the surface right held shall be fully explored as per UNFC guidelines, before expiry of mining lease. (guidelines of Ministry of Mines F.No.10/75/2008-MV, dated 23/12/2010)
15. Core type drilling of boreholes shall be proposed.
16. The reserves presented in table of page no 32 and table in page no 43 are not matching. Section wise estimated reserves / resources calculated are not matching with the total summary of reserves / resources furnished under UNFC category.

### **MINING**

17. No of benches to be worked out in the ore and waste is to be mentioned in the proposed working areas viz main pit, mushagar pit and quarry -7. The exact configuration of mushagir pit like no of benches etc. shall be shown in the plans and sections. During site inspection ROM mushagir yard and mushagir pit were almost close.
18. Ultimate pit depth is to be mentioned in all the working areas. Pit wise detailed break up of ROM produced for the proposed period shall be given. Grid location of proposed working areas to be given for the proposed period.
19. Proposed production rate is more than the EC obtained i.e. (1,83,375 TPA), so undertaking shall be given regarding the necessary clearance from statutory bodies before achieving enhanced production.
20. Yearwise tentative production figures of Manganese ore given in table in page no. 53 are differing with production figures given in table in page no.57

### **Mine Drainage**

21. Considering the topography of the area elaborate the mine drainage pattern during monsoon season regarding the direction of water flow and amount of accumulation. The chapter shall also deal with existing and proposed dumps effect on mine drainage

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

22. Overall height of waste and sub grade dumps with their slop angles, no of terraces shall be mentioned. Mineral reject, subgrade material shall be stacked separately. Proposal was given to dispose mineral reject in waste dump, which will not be accepted.
23. During inspection it was observed that waste disposal was not carried out as per the proposed method in last mining scheme. So keeping in view of that proper location of waste disposal with configured area along with sub grade stack needs to be reviewed.
24. Adequate provision for Garland drain, retaining wall and check dams shall be given keeping in view of the proposed dumps to prevent wash-off of material.
25. Proposed dump & existing dump in the lease area needs to be established for barren zone. If already explored give the details of it.
26. During inspection sub grade stack was observed in the present working quarry (Mushagir pit) but it was not shown in plan. Re-handling proposal may be given.

## **PROGRESSIVE MINE CLOSURE PLAN**

27. The area to be back filled during the plan period in south end of the main pit shall be properly assessed. Justification shall be given with reference to the mineralisation exists in the present mined out land for not proposing the reclamation measures.

## **FEASIBILITY STUDY REPORT**

28. UNFC category was not properly justified (page no 31) in estimating the reserves / resources of the area. Capital cost, Cash-flow forecast, Investment cost, Inflation forecast, Operating cost, Sensitivity studies, RR, IRR, NPV for the project life, cost of operation, Closure cost and Rehabilitation cost etc.

### **Plates:-**

#### **General:**

29. All plans and sections should be signed with date by certified Surveyor, Qualified Person, Mine Manager, Mining Engineer and Mining Geologist as per provisions of Rule 30 of MCDR, 1988 and Rule 66 of MMR, 1961. All plans & sections prepared shall follow the conventions mentioned under MMR 1961.
30. All plans and sections shall show a scale a scale of the plan at least twenty five centimeters long and suitably subdivided. The scale of the plans and sections shall be as per guidelines of MCDR, 1988.



31. Wind direction may be shown through wind rose diagram at the top right corner of the relevant plans.
32. All the plans and sections shall be prepared on a scale of 1:2000 or 1:1000 if not, permission obtained from Chief controller of Mines, IBM shall be annexed for preparing the plans and sections on different scale.
33. Forest area, Non Forest area, Surface right acquired area etc. should be marked clearly over all Map/Plan & Surface plan.
34. DGPS survey map certified by ORSAC and state government shall needs to be submitted.
35. All plans and sections shall be updated to the last quarter.
36. Authenticated lease plan is not legible, properly legible plan needs to be submitted.

37. Reclamation & rehabilitation plan shall be submitted

**Surface Plan:**

38. Forest/non-forest/private land to be shown clearly. Proposed, three year excavation block to be depicted on surface plan. Some of the labels shown in the plan are not indexed.
39. Surface right area not shown on surface plan. Boreholes drilled and power transmission lines to be shown in the plan. All boundary pillars coordinates in UTM, Latitude and longitude to be shown in tabulated form on surface plan. Few pillars may be correlated with some permanent ground feature giving distance and direction.

**Geological Plan & Section:**

40. Structural details like strike, dip amount and direction of ore body to be shown in the plan. Boreholes, Collar RL of boreholes shall be shown on geological plan and sections.
41. The exploration carried out as per UNFC guidelines of different categories of reserves / resources to be shown in the plan. All the lithological units shall be clearly marked with visible distinction. The index labels are not matching with the labels shown on the plan, rectify the same.
42. Direction along which geological section have been drawn to be depicted on the sections. The sections drawn are not matching with the plans regarding the topography of the area.

**Development plans and Sections:**

43.No of sections submitted shall match with the sections shown in development plan submitted. Conceptual plan submitted should depict the year wise development. Grids are not available in development section.

44. Benches configuration of year wise development shall needs to be shown on the plan. Conceptual plan shall illustrate the mine development works till the end of the conceptual period.

**Progressive Mine Closure plan**

45. Spot mRL to be mentioned in backfilled area.

**Environment plan**

46. Contours shall be drawn at 5 m intervals.

47. The proposed and existing environment protective measures to be shown in environment plan. The drainage pattern of the lease area also to be shown on the plan. The flow direction of the water also to be shown.

**Financial Assurance plan**

48. Area considered for financial assurance not matching properly with FA plan. Lessee has given 99.893 Ha, where as it comes to be around 123 ha. It shall be recalculated.

49. Area categorised under FA shall be colour coded distinctly in FA plan

**Key Plan**

50. Co-ordinates of extremity of lease area shall be shown on key plan. Radius of 500 m radius was shown shall be corrected as 5 km radius, Population density of villages shall be shown on the plan.

**ENCLOSURE:**

51. Photo id and signature proof submitted in respect of Nominated owner is obscure, a legible copy same to be submitted.

52. Few photograph of the Boundary pillars, present land use to be attached.

53. Details like Name, residential and correspondence address, email address, contact number etc. of all the Directors of the company to be submitted.

54. Certificate of registration of company with memorandum of association is to be given .

55. Proper indexing of annexures needs to be done.

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