



भारत सरकार GOVERNMENT OF INDIA
खान मंत्रालय MINISTRY OF MINES
भारतीय खान ब्यूरो INDIAN BUREAU OF MINES
क्षेत्रीय खान नियंत्रक के कार्यालय
OFFICE OF THE REGIONAL CONTROLLER OF MINES



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No. MPM/A/35-ORI/BHU/2020-21

Date: 22.02.2021

सेवामे

✓ The Managing Director & Nominated Owner,
M/s Odisha Mining Corporation Ltd,
OMC House, Bhubaneswar -751001

विषय: Approval of modification of Mining Plan of Roida-C Iron & Mn Mine along with Progressive Mine Closure Plan (PMCP), over an area of 192.81 ha in Keonjhar district of Odisha State, submitted by M/s Odisha Mining Corporation Ltd under Rule 17(3) of MCR, 2016.

संदर्भ: - i) Your letter No. 6592/OMC/2020 dated 04.06.2020 received on 05.02.2021.
ii) This office letter of even no. dated 05.02.2021.
iii) This office letter of even no. dated 05.02.2021 addressed to the Director of Mines, Govt. of Odisha, copy endorsed to you.


महोदय,

This has reference to the letter cited above on the subject. The draft modification of Mining Plan along with Progressive Mine Closure Plan (PMCP) has been examined in this office by Shri S R Mazumdar, Senior Mining Geologist. 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 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 should be submitted in Auto CAD compatible format or JPG format in resolution of 100x100 pixels on same CD)** with financial assurance under Rule 27 of MCDR 2017 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. It may be noted that no extension of time in this regard will be entertained and the modification of Mining 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.

Yours faithfully,


(हरकेश मीना)

क्षेत्रीय खान नियंत्रक

Copy for kind information and further necessary action to Shri S.C. Nayak, M/s MINESKETCH Consultants (P) Ltd, Flat No-205, Bhagwan Tower, Cuttack Road, Bhubaneswar-751006.

(हरकेश मीना)
क्षेत्रीय खान नियंत्रक

Scrutiny comments on examination of Modification of Mining plan with PMCP of Roida-C Iron & Manganese Iron Mine over an area of 192.81 Ha in Keonjhar District of Odisha State of M/s OMC Ltd

General Points:

1. In the cover page and at all relevant places, the period of proposal should be mentioned in financial year and the statement "tallying with approved plan period" may be omitted. Need to do necessary corrections.
2. In the introduction chapter, considering the extent of lease area of 192.91 Ha and execution of supplementary lease deed over 192.91 Ha, the reference of spilling of the blocks is not relevant and may be omitted. Further, in page 4, 18 etc. the reference of IDCOL may also be omitted. Need to do necessary corrections at all places.
3. Sequence of paragraph and its numbering as per IBM Manual Appraisal MP 2014 has not been covered in text. All the headings as mentioned in the IBM Manual Appraisal MP 2014 should be furnished in all chapters in the text. All the text, tables and annexures to be properly indexed/ numbered/ paged and signed by qualified persons. Correct table reference number to be mentioned at all relevant places. All the certificates/annexures should bear dated signature. Need to do necessary corrections at all relevant places in the document.
4. Copy of the latest board of Directors signed by competent authority need to be submitted. Copy of the board resolution on appointment of Nominated Owner should be rechecked and corrected. ID and address proof of the Nominated owner should also be submitted. Need to do necessary corrections at all related places in the document.
5. In Para 1 (a), under the name and address of the lessee/applicant, the information furnished related to IDCOL is not relevant and hence should be omitted. In Para 1(b), the details of the Nominated Owner (name, address, contact details etc.) furnished should be rechecked and corrected. Need to do necessary corrections.
6. In page 10, the land schedule of 96.775 ha is not relevant and may be omitted. Need to do necessary corrections.
7. In Para 2(b), the details of the lease area have not been furnished in the format specified in IBM Appraisal of Mining Plan 2014. Need to do necessary corrections.
8. In Para 3.1. details to be furnished in following tabulated format since execution of mining lease.

Sl. No	Mining Plan / Scheme of Mining/ Review of Mining Plan etc.	Area (in Ha)	Period of proposal in Financial Year	Submitted under Rule	Approval Letter No. & Date

9. In Para 3.3. review for the period 2019-20 and 2020-21 has not been furnished with details along with reason for deviation for exploration, production, reclamation, rehabilitation measures etc. Need to do necessary corrections.

Geology and Exploration

10. In Page 41, the grid spacing furnished has not been justified w.r.t type of deposit and grid spacing of boreholes as per exploration norms specified in Part III of MEMC Rules 2015. Need to correct the area explored as per above norms. Further, the table showing remaining area to be explored under G2 level is incorrect and should be as per provision of rule 12 (4) of MCDR 2017. Need to do necessary corrections.
11. The future exploration program to be revised incorporating the followings.
 - a) In the Geological Plan, the explored and unexplored area with level of exploration has not been furnished.
 - b) As per Rule 12 (4) of MCDR 2017, G1 level of exploration over potentially mineralized area under the mining lease has to be completed by 2021-22. Therefore, G1 level of exploration need to be proposed over entire area in grid pattern as per exploration norms specified for minerals in Part III of MEMC Rules, 2015 to be completed by 2021-22 except those area already explored in G1 level. Need to modify the exploration proposal accordingly in text and plates.
 - c) New core boreholes to be proposed in the location adjacent to existing drilled boreholes that have been either terminated in the ore zone or closed prematurely without intersecting the ore zone in depth those qualifying for delineation of G1 area. Need to necessary corrections.
 - d) The area proposed for dumping should be proved for non-mineralization before commencement of dumping. Accordingly, exploration proposal should be furnished. Need to do necessary corrections.
 - e) In page 42, in the table the reference of rule under "meterage" column is not relevant and may be omitted.
12. The year wise exploration proposal should be modified as per above scrutiny point and the year should be mentioned in financial year. The exploration proposal has not been submitted as per the format specified in IBM Appraisal of MP 2014. Need to do necessary corrections.
13. The bulk density furnished for ore and mineral reject for iron ore and manganese ore have not been supported with bulk density test report either from Govt. Laboratory or NABL accredited laboratory. Further, the reserve/resource estimated for different ore types but bulk density test report for different litho types have not

been submitted. The recovery factor considered has not been supported with either time series data or test reports. Need to do submit the relevant documentary evidences.

14. As entire area has not been explored under G1 level of exploration, hence prefeasibility report should be furnished and accordingly the UNFC codes for reserves and resources should be rechecked and corrected in text and in plates. Justification of UNFC codes as per UNFC guidelines has not been furnished. Need to do necessary corrections.
15. The detail calculation of section wise reserves and resources by cross sectional method of estimation for different UNFC codes for iron ore and manganese ore have not been furnished. Further, the reserves of manganese have been reported in the table in page 52 but not calculation for the same is furnished. Need to do necessary corrections.
16. The final presentation of reserve and resources under various UNFC codes should be rechecked and corrected after complying the above scrutiny points. Need to do necessary correction.

MINING

17. Justification for site selection for mining during the proposed plan period has not been furnished. Proposed method of mining has not been furnished in light of development proposal i.e. annual production capacity, nos. of pits proposed for production, site of waste dump and other mine design parameters. Need to do necessary corrections.
18. In conceptual mining plan, the reserves and production proposals are not matching with the furnished reserves/resources and production proposals in relevant chapters of the document. Need to do necessary corrections.
19. Insitu tentative excavation table showing quarry wise production proposal has not been submitted. Further, insitu tentative excavation proposal could not be verified as year wise development plans and sections have not been submitted.
20. In the table in page 62 and 63, the ROM production, Ore and Mineral reject production should be furnished in metric tones as well. Need to do necessary corrections.
21. In page 66, under dump rehandling it has been mentioned that there exist 8 dumps in the lease area whereas in page 59-60, the details of 7 dumps have been furnished. Need to do necessary corrections at all relevant places.
22. Conceptual Mine planning should be modified taking into consideration of the revised production from in-situ excavations, available reserves and resources describing the excavation, recovery of ROM, Disposal of waste, backfilling of voids, reclamation and rehabilitation showing on a plan with few relevant sections. The calculation furnished in table in page 74 should be based on insitu calculations not considering the stripping ratio. Need to do necessary corrections.
23. In pursuant to the order dated 14.01.2020 passed by MoM, Gol, consequent up on the order dated 08.01.2020 of the Hon'ble Apex Court passed in W.P.(C) No. 114/2014, the lessee shall carryout "regrassing in mining area after closure of mines". Accordingly proposal has not been submitted in conceptual planning, conceptual plan and sections.

STACKING OF MINERAL REJECT/SUB GRADE AND DISPOSAL OF WASTE:

24. In Para 4a, the definition of subgrade is not required and hence may be omitted. The quantity of mineral rejects in the table should be furnished in tones. Further, in absence of any proposal for beneficiation, the quantity of mineral reject for beneficiation as shown in table is not justified. Need to do necessary corrections.
25. The year wise buildup of waste dumps has not been described in detail. The information should be furnished in the following table.

Year	Waste Generation (in m ³)	Waste Dumped (in m ³)	Dump Name	Location of Dump (coordinates)	Existing or new dump	Top RL of the Dump	No of terrace proposed.	Individual Terrace height	Slope of the terrace	Overall slope angle of dump

Further, the waste dumping should not be carried out till the area proposed for dumping is proved barren through drilling. Need to modify waste dumping proposal accordingly. Need to do necessary corrections.

26. Existing as well as proposed year wise protective measures like retaining wall, garland drain, check dams etc., should be furnished in tabular format with details of location, length, dimensions etc., Need to do necessary corrections.

PROCESSING OF ROM AND MINERAL REJECTS

27. The material balance chart furnished is incorrect. ROM Feed grade as is +58% Fe do not justify the generation of ore and mineral reject as proposed. Need to rectify the same. The ROM feed grade and tonnage with recovery%, grade and tonnage of product at each stage of processing may be shown in the flow sheet along with block diagram processing plant. The summary of the physical and chemical composition of feed material, grade and

quantity along with different output products with physical and chemical composition (with nomenclature of product) should be furnished with recovery percentages. The recovery percentage considered at each stage of processing should be justified properly. Need to do necessary corrections.

PROGRESSIVE MINE CLOSURE PLAN

28. Baseline information of the lease area has not been described as per guidelines. Further, base line information to be furnished for surrounding 500 meter form lease boundary. The monitoring of various environmental parameters as per the relevant statue should be proposed in the core and buffer zone the lease area. The details of monitoring stations should be marked on the environment plan.
29. In the table shown in page 117, the net area considered for FA calculation should be rechecked and corrected considering the area proposed for degradation by way of stacking, dumping of waste etc. Need to do necessary corrections and submit the financial assurance in form of bank guarantee as per provision of rule 27 of MCDR 2017. Need to do needful.
30. Year wise mining plan proposals and land use pattern should be submitted in soft copy in the format of .kml or .shp file along with document. Need to do necessary corrections.

FEASIBILITY REPORT

31. Prefeasibility Study report conforming to Part V of Minerals (Evidence of Mineral Contents) Rules, 2015 has not been submitted. Need to do necessary corrections.

PLATES (General):

32. The DGPS surveyed ML map submitted has not been authenticated by the competent authority of state government. Need to submit the authenticated DGPS surveyed mining lease map.
33. The conventions provided under the Metalliferous Mines Regulations, 1961, shall be used in preparing all plans and sections. All plans and sections should comply with the provisions of Rule 32 of MCDR 2017. The plans and sections submitted should bear the certificate that -the plans and sections are prepared based on the lease map authenticated by the state government. All plans and sections should be signed with date by Qualified Person. Date of observation of Magnetic meridian should be shown in all plans. Need to do necessary corrections.
34. With reference to CCOM Circular No 2/2010 and its addendum, the geo-referenced mining leases map superimposed on latest high-resolution satellite data has not been submitted.
35. The existing and proposed bench positions clearly with mRL to be mentioned in the all plans and sections. Date of survey has not been given on every plan and sections and the same should be signed by with date. Grid Lines have not been be shown in all plans and sections. All plans and sections should be signed with date by certified Surveyor, Qualified Person, Mine Manager, Mining Engineer and Mining Geologist
36. The crushing and screening site area should be rechecked and its index should be corrected as currently it matches with the index of the lithology. Need to do necessary corrections in all relevant plates.

Key Plan:

37. The key plan has not been prepared as per the provision of rule 32 (5) (a) of MCDR 2017 particularly the boundaries of all villages and towns with their population, forests with tree density, approach road to lease area etc. Need to prepare key plan in new toposheet. Need to do necessary corrections.

Surface Plan:

38. The features shown in the index is not distinguishably shown in the plan. Diverted forest area to be shown in the plan as well as marked in the index of the map. The UPL should be shown over the plan and in index. Necessary corrections to be done.
39. The features shown in the index is not distinguishably shown in the plan. Diverted forest area to be shown in the plan as well as marked in the index of the map. The UPL should be shown over the plan and in index. Necessary corrections to be done. Forest, non -forest area, diverted forest area have not been shown. Few boundary pillars should be correlated with some permanent ground features giving distance and bearing/direction. Nomenclature of the existing waste and mineral reject dumps along with fines stack should be mentioned.
40. The Surface Plan should be prepared to satisfy the provision as laid down rule 32 (1) (a) of MCDR'2017.

Geological Plan & Section:

41. The Geological Plan should be prepared complying the provision as laid down rule 32 (1) (b), (c) and (d) of MCDR'2017. Need to do necessary corrections.
42. All the lithology shown in plan is not shown in its index. Index of lithology should be same in plans and sections. The mineralized and non-mineralized area as demarcated in Geological plan of Geological Report has not been shown properly. Need to do necessary corrections.
43. The revised exploration proposal as mentioned in the scrutiny point should be incorporated in geological plan. The proposed boreholes to be shown in dotted lines in Geological sections along with proposed borehole number, RL and proposed closing depth at the bottom of the borehole. The year wise proposal for drilling to be

shown in different contrasting color in both Geological Plan and Geological sections. The year wise color of the boreholes proposed in Geological plan should match with the plotted proposed boreholes in Geological sections. Need to do necessary corrections.

44. In geological sections, the UNFC codes should be rechecked and corrected in all plans and sections after complying the scrutiny points. Need to do necessary corrections.
45. The blank portions of the sections above the UPL should be filled with relevant lithologies. The ore and mineral reject part considered in sectional method of calculation of reserves and resources should be demarcated in geological sections. The demarcation of ore and mineral reject has not been shown in geological sections justifying the calculations for reserve and resource estimation for the same by cross sectional method. Need to do necessary corrections.

Development plan & Section:

46. Year wise mining plan proposals should be submitted in softy copy in the format of .kml or .shp file along with document. Need to do necessary corrections.
47. The area proposed creating new waste dump and backfilling should be proved barren through drilling and accordingly proposal should be furnished. Specific year wise backfilling should be shown in plans and sections.
48. Quarry name, existing and proposed year wise bench profiles, waste dumps, mineral reject dumps etc. to be shown in the development plans and sections including legend. The lithology of the area should be clearly shown in year wise development plan and sections in the area proposed for development. In development plan, proposed benches RL should be clearly depicted. The nomenclature of existing and proposed dumps should be clearly marked. In development section progress of dumping and others protective measures should be clearly depicted. Need to do necessary corrections.
49. The UNFC codes should be rechecked and corrected after complying the above scrutiny points.

Environment plan:

50. The Environment Plan as prepared should be satisfy the provision as laid down rule 32 (5) (b) of MCDR'2017. The proposed environment protective measures to be shown in environment plan. The drainage pattern of the lease area also to be shown on the plan. Air, water and noise monitoring stations to be shown in the plan. Wind rose diagram should be shown with predominate wind direction.

Reclamation plan along with sections.

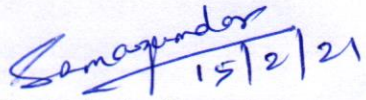
51. Reclamation plan should be submitted as per IBM appraisal of mining plan describing the proposals to be implemented for reclamation and rehabilitation of mined-out land including the manner in which the actual site of the pit will be restored for future use. The year wise dump plantation proposal as mentioned in text has not been shown in reclamation plan. The proposals should be supported with yearly plans and sections depicting yearly progress in the activities for land restoration/ reclamation/rehabilitation, afforestation, protective measures etc.

FA Plan

52. The area under different heads of FA table should be properly shown in different hatching with present area and additional area in FA plan. The FA table should be furnished.

Annexures

53. Few photographs showing Land use of the lease area, environmental status of the area has not been submitted.
54. Bulk density test reports from NABL accredited laboratory or Govt. Laboratory has not been submitted. Copy of recovery test report or recovery considered from time series data have not been submitted. Need to submit the required documents.
55. Chemical analysis report from NABL accredited laboratory and Govt. Laboratory supporting the analysis of bore hole samples reported has not been submitted. Need to submit the same.
56. Copy of the latest board of Directors signed by competent authority need to be submitted. Copy of the board resolution on appointment of Nominated Owner should be submitted.
57. Copy of valid bank guarantee as per provision of rule 27 (1) of MCDR 2017 should be submitted.


(Sudip Ranjan Mazumdar)
Senior Mining Geologist