



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/FM/26-ORI/BHU/2018-19

दिनांक / Date: 24.09.2018

To

Shri Mahesh Kumar Agarwal,
Managing Director, M/s Sree
Metaliks Limited, SML House,
Main Road, Barbil-758035, Odisha.

Sub: Approval of Modification of Mining Plan of Khandabandh Iron Ore Mines over an area of 35.774 ha in Sundargarh district of Odisha of M/s Sree Metaliks Limited submitted under Rule-17 (3) of MCR, 2016.

- Ref: -i) Your letter no. SML/BBL/Mines/KB/212/18-19 dated 25.08.2018 received on 29.08.2018.
ii) This office letter of even no. dated 29.08.2018.
iii) This office letter of even no. dated 29.08.2018 addressed to the Director of Mines, Govt. of Odisha, copy endorsed to you.

Sir,

This has reference to the letters cited above on the subject. The draft Modification of Mining Plan along with Progressive Mine Closure Plan has been examined in this office based on site inspection carried out on 11.09.2018 by Shri Ramkishan R, Sr. Asst. 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 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 and JPG format in resolution of 100x100 pixels on same CD)** with financial assurance under Rule 27 of MCDR' 2017 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.

भवदीय / yours faithfully,

(HARKESH MEENA)

क्षेत्रीय खान नियंत्रक / Regional Controller of Mines

Copy for kind information and necessary action to:

1. Shri Pradeept Mohapatra, Qualified Person, PO Box No-1, At-Unchabali, Post-Bamebari, Joda, Dist- Keonjhar, Odisha, Pin-758034.

(HARKESH MEENA)

क्षेत्रीय खान नियंत्रक / Regional Controller of Mines

**Scrutiny comment on Modification of Mining Plan including PMCP in respect of
Khandhabandh Iron Mine of M/s Shree Metalicls Ltd in Sundargarh district of Odisha State.**

General:

1. On cover page Mining Lease Number/TC Number/Lease Number, Mine code if any, along with registration number as allocated by IBM under rule 45 of MCDR, 2017 needs to be mentioned. Further, address, e-mail, phone number, fax number of the lessee should be furnished on cover page. Summary of proposal at a glance may be furnished before "Introduction" chapter covering Exploration, Excavation, Area Utilization, Stacking, Environmental Protective Measures etc."
2. The document should be prepared as per the IBM Manual on Appraisal of Mining plan 2014, no alteration and deletion should be made in the chapters headings, paras.
3. The lease deed executed was on 11.01.2017, so the approved mining plan period is from the year 2016-17 to 2020-21, accordingly review of the previous approved mining plan should be furnished and modification of the plan for the remaining period should be prepared.
4. The details regarding signed MDPA and also gist of the same should be provided. Authenticated Land schedule of the ML area with different type of land types should be furnished. The details regarding consent to establish from SPCB should be furnished.
5. The reference of MCDR,1988 should be replaced with relevant rules of MCDR, 2017.
6. The qualification and experience of QP should be enclosed as per the rule 15 of MCR, 2016.

1. Geology and Exploration:

7. BH wise information of drilled BH to be given in tabulated form indicating Year, Collar coordinate, collar RL, type (Core/DTH/RC), section number, diameter, spacing, inclination, depth, whether mineralized or non-mineralized.
8. Explored area under G1/G2, Reserves / resources should be re-estimated as per the provisions of MEMC, 2015 rules and per field discussions. The geological section lines may be re-oriented in the mineralized area as per the structural information (attitude of beds) available in geological plan. Sections should only drawn perpendicular to strike of the deposit with equal spacing. The quantity of float and in-situ iron ore reserves / resources should be furnished separately. Cross section areas considered for saleable ore and mineral reject/subgrade should be reviewed and rectified.
9. The explored areas with mineralisation , non-mineralisation areas should be categorized in different land types which should also be reflected in relevant plan and sections. Final reserves and resources should be consolidated in only table as per UNFC with justification for each category of reserves/resources. Proposal of the exploration should be given for entire lease area under G1 level of exploration. Proposed borehole depth should be 300 m or till the end of mineralization accordingly meterage should be calculated. From geological plan and section it is observed that some of the drilled BH were terminated in Ore and not drilled up to the optimum depth of the mineralization. Hence, to explore the lease area depth ward infill exploratory drilling may be proposed up to the depth of the mineralization.
10. Furnished information under expenditure incurred for exploration should be supported by documentary evidence as enclosure.
11. The details of exploration to be given in accordance to the land schedule i.e. forest/non-forest/diverted forest/surface right area etc. The details of individual proposed BH to be given in following format:

Sl.No	Year	BH No	Northing	Easting	Collar RL	Core/RC/DTH	Meteage	Inclination	Forest/Non-Forest/ diverted Forest	Surface Right/ Non-Surface	Purpose of BH
1	2018-19	PBH 01									
2	2018-19	PBH02									
Total						Total BH	Total mts				

At the end of the table cumulative number of proposed BH in forest area, non-forest area, diverted forest area, Surface right area and non -surface right area to be given. Same to be depicted on the Geological plan.

12. Recovery and bulk density mentioned of Iron ore both for float and in-situ for mineral reject/sub grade and saleable ore should be properly justified with documentary evidence like test carried out in NABL laboratory. The grade of mineral reject/sub grade and saleable grade should be mentioned. Density of iron mentioned in page no.20 and 18 are contradicting each other check and rectify the same.

13. As per guideline of "IBM manual on appraisal of Mining Plan 2014" at least 10% of total samples to be analyzed in accordance to BIS and reports from NABL accredited/Government Laboratory. Accordingly, the proposal should be given under future exploration programme. Even the analysis carried out samples in NABL lab for the previous exploration should be enclosed.

2. MINING:

14. Grid location of existing workings with details of quarry dimensions like, length width, no of benches, depth etc., and grid location of proposed working areas to be given for the proposed period. Quantum of production and development may be described year wise with no. of benches, mRL, UPL, depth of excavation, direction of advancement, location and geological cross-section area considered.

15. Geological Section wise of proposed ROM excavation quantity in for very year should be provided. Sections may be equally spaced so that the entire area proposed for excavation may cover.

16. Drilling and blasting operation should be elaborated in detail with details of explosive magazine and type of explosive used, blasting pattern. Requirement of mining machineries calculations should be reviewed as per filed discussion and modified.

17. It is proposed to backfill the exhausted portion of quarries with waste material from 2019 onwards, so complete details of about the area to be backfilled with depth of mineralization and mineral excavation etc., should be given and the same to be marked clearly in the concerned plan and sections with mRL.

3. Mine Drainage: Considering the topography of the lease area, it appears that the slope is towards East. Hence, a mine drainage plan to be submitted showing catchment area, flow direction of the water, location of final discharge, arrangement for arresting of solid waste etc. showing retaining wall, garland drain, settling tank, check dam etc.

4. Stacking of Mineral Reject/Sub-grade and Disposal of Waste:

18. Build-up of dumps from year to year to be given in tabulated manner considering designed capacity of dumps, bottom and top mRL of individual terrace, dump slope, individual terrace height and slope. Year wise dump plan and sections should be submitted. Due justification with complete details should be furnished for backfilling proposal with exact details like mineralization mRL and excavation mRL till the time of backfilling etc.,

19. Existing waste dump details should be furnished. Information on mineralization or non-mineralization proved in the underlying area of all the proposed and existing dumps should be furnished. The sequence of stacking and retreating the dumps should be as per the exact litho sequence and accordingly backfilling should be carried out. Details reading dumping and backfilling should be quantified separately.

20. Location of mineral reject / sub grade dump should be furnished with protective measures. Temporary ore stacks are proposed on waste dump, it should be relocated to some other suitable location.

21. Details of existing and proposed retaining wall, garland drain, settling tank etc. to be given with their location along with proposal of maintenance of all existing retaining wall, garland drain, settling pond and check dam to be given. Proposal around the existing and proposed waste dump should be reviewed.

5. Use of Mineral and Mineral Reject:

22. All the information under sub chapetr 5 e)... etc should be furnished.

23. Details regarding the use of different size and grade material generated from dry processing of ROM should be furnished.

6. Processing of ROM and Mineral Reject:

24. Material balance chart provided should be reviewed as discussed during the site visit.

7. Others:

25. The details of contractual and departmental manpower to be given separately with level of working. The present and proposed strength of manpower should be furnished.

8. Progressive Mine Closure Plan:

26. The report of the environment monitoring has to enclosed and reference of same to be mentioned. Updated air, water, noise, ground vibration and soil data with analysis from laboratory done periodicity for last one year to be enclosed.

27. Summary of year wise proposal under reclamation and rehabilitation measures should be proposed with planation in barren area, safety zone area, protective measures around waste dump and subgrade dump like retaining wall, garland drain,, check dams. Etc.,

28. Details regarding mined out land should be elaborated as discussed during field visit. The sequence of stacking and retreating the dumps should be as per the exact litho sequence and accordingly backfilling should be carried out

29. Since the lessee has signed MDPA with state government as per rule 27(1) of MCDR, 2017, the information in regard to MDPA should be furnished under FA.

9. Feasibility Study Report

30. Feasibility assessment report should be prepared and submitted as per UNFC guideline considering all technical and economic parameters along with guideline as per CCOM circular 1/2006 and 4/2009 considering all technical, financial and economic parameters described in UNFC guideline and or as per parameter described in M(EMC) rule 2015.

10. Plates:

31. The extent of lease area of the mine should be mentioned in all plates. 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 MCDR, 2017 and MMR, 1961. All plans & sections prepared should follow the conventions mentioned under MMR 1961.

32. Magnetic Meridian and date of observation of should be given on all relevant plans. Further, the UPL should be shown in red colour in all relevant plans and sections.

33. 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. Date of survey should be given on all plans and sections and signature should bear date of signature.

34. All plans and sections should show a scale a scale of the plan at least twenty five centimeters long and suitably subdivided. True and magnetic north should be depicted in all plans with date and variation.

35. Plan and sections should be submitted on 1:1000 scale.

36. Key Plan: The approach road to lease area has not shown. Plan should be prepared as per rule 32 (5) (a) of MCDR, 2017.

37. **Surface Plan:** Forest/non-forest/diverted forest/private land/SR area to be shown. Latitude and longitude along with UTM coordinates of all the boundary pillars as per DGPS map to be mentioned in plan. Further, few pillars may be correlated with some permanent ground features giving distance and direction. The exact configuration of trench, waste dumps should be plotted on the surface plan. Surface plan should be prepared as per rule 32 (1) (a) of MCDR, 2017. Common boundary if any should be shown.

38. **Geological Plan & Section:** plan and section should be prepared as per 32 (1),(b),(c), (d) of MCDR, 2017.

39. Geological plan does not illustrate geological feature of the area such as orientation of ore zone, structural information like strike, dip, dip-direction etc. All these information should be reflected on geological plan and section. Check and rectify. Further, the index in geological plan and section should be same. Further, the depth of the proposed exploratory and drilled BH to be

mention at the end of the BH. Level of exploration area should be marked such as G1, G2, etc.. The proposed boreholes to be plotted in dotted lines in Geological sections along with Collar Id, RL and proposed closing depth at the bottom of the borehole.

40. **Development plan & Section:** The layout of the haul road for present and future workings has not been depicted on the plan and sections. Further, existing position of waste dump and proposed dump (if, any) height is to be marked with mRL.
41. Each year development proposal for different locations should be shown separately in different color with configuration of year wise benches. Composite development plan and section to be submitted.
42. The benches and configuration of existing and proposed quarries should be shown in different legends.
43. **Environment plan:** All feature as mentioned under rule 32(5) (b) of MCDR2017 to be depicted. Surface features and contour of adjacent mine has not been shown in core and buffer zone. Wind rose diagram to be depicted.
44. **Reclamation plan:** reclamation plan showing the proposed reclamation and rehabilitation measures should be submitted.

11. Enclosures:

45. The copy of the qualification & experience certificate in respect of the QP to be enclosed.
46. Copy of lease deed executed with copy of authenticated land schedule should be enclosed.
47. Nominated owner supporting documents like resolution of board of directors should be enclosed.
48. Copy of signed MDPA should be enclosed.
49. Consent to operate from SPCB state government should be enclosed.
50. Copy of surveyor certificate should be enclosed.
51. Copy of quality of air, water, soil, noise and other environmental a parameters monitoring report of the last year should be enclosed.
52. All the annexure to be properly numbered/paged and relevant annexure to be signed by Geologist/surveyor/RQP etc. It is observed that many of the annexures are not legible. A legible copy of same to be enclosed.
53. Copy of previous approved mine plan & scheme of mining letter should be enclosed.
54. Details of all borehole logs should be enclosed. Analysis reports of stacks should be enclosed.
55. Recovery test, bulk density test reports carried out in NABL laboratory should be enclosed.
56. Copy of bank guarantee should be enclosed.
57. Photographs of boundary pillars should be enclosed along with core samples collected and preserved after the exploration already carried out.
58. Certificate from the lessee should also include: The information furnished in the Review of mining plan and Progressive Mine Closure Plan is true and correct to the best of my knowledge and records. It is to undertake that all the measures proposed in this Progressive/Final Mine Closure Plan will be implemented in a time bound manner as proposed.
59. A legible copy of photo id, address proof and signature proof of lessee to be enclosed.
60. Copy of form I and J (year wise) as per MCDR, 2017 to be enclosed for all the drilled BH for ready and future reference as per Rule 47 and 48 of MCDR, 2017. The same should be signed by the Geologist appointed under MCDR, 2017. The section should be correlated with available information i.e BH data, surface geology etc.

In view of above, wherever necessary correction required to be made.

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