



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. FMCP/FM/21-ORI/BHU/2018-19

Date: 26.04.2018

To

Shri Seraj Yusha, Jt. Managing Partner,
M/s Serajuddin & Co.
Balda Block Iron Mine,
At/P.o- Balda, Dist-Keonjhar,
Odisha - 758034

Sub: Approval of Final Mine Closure Plan of Balda Block Iron Ore Mine over an area of 335.594 ha in Keonjhar district of Odisha State, submitted by M/s Serajuddin & Co. under Rule 24 of MCDR, 2017.

Ref: - i) Your letter No. BBIM/544/2017-18 dated 30.03.2018 received on 11.04.2018.
ii) This office letter of even no. dated 11.04.2018.
iii) This office letter of even no. dated 11.04.2018 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 Final Mine Closure Plan (FMCP) has been examined in this office based on site inspection carried out on 18.04.2018 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 Final 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)** of the Final Mine Closure 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 Final Mine Closure 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 Final Mine Closure Plan. It may be noted that no extension of time in this regard will be entertained and the Final 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

Copy for kind information and further necessary action to Shri Pradeept Mohapatra, P.O. Box No- 1,
Unchabali, Joda, Keonjhar, Odisha- 758034.

(HARKESH MEENA)
क्षेत्रीय खान नियंत्रक / Regional controller of Mines

Scrutiny comments on examination of FMCP of Balda block Iron Mine over an area of 335.594 Ha in Keonjhar District of Odisha State of M/s SERAJUDDIN & CO

GENERAL

1. The content of the cover page is not in accordance with the guidelines as specified in the format for preparation of FMCP. Also FMCP should be submitted under Rule 24 of MCDR 2017. Necessary information to be provided in the cover page as specified in format.
2. The sequence of paragraph and format (text/table) should be kept same as per the format for preparation of FMCP specified in IBM Manual for Appraisal of FMCP.
3. All the annexure and text to be properly indexed/ numbered/ paged and signed by qualified person. All the certificates/annexures should bear dated signature.
4. Review has been carried out for the period from 2017-18 to 2019-20. However, as per guideline, review of earlier proposals should be carried out for last 3 years period of the approved mining plan document i.e. for the period from 2015-16 to 2017-18. Hence, entire chapter to be recast as per the guideline. The information in respect of the achievement to be furnished along with documentary evidence. The updated information upto 31/03/2018 to be furnished for the year 2017-18.

SUMMARY OF PROPOSAL AT A GLANCE

5. Under **Exploration**, the parameters in which there is no proposal should be marked as "Nil".
6. Under **Excavation (Iron ore Zone)** the quantity shown under the para "Clean Ore" is actually saleable ore quantity. Thus, in the remark column "Saleable Ore" should be mentioned. The quantity mentioned under parameter "Fines in tons", "OB/waste material in cum" is incorrect and does not match with the proposal in the approved scheme of mining. Necessary corrections to be done at all relevant places.
7. The content of the table and the sequence of parameters under "**Lease area utilization**" should be kept same as per the format specified. Year wise proposal should be given. Also, the data on the "Area under Mineral Rejects dumps (in Ha) to be given" and not under "Mineral Storage". Necessary corrections to be done in the table.
8. Under **Stacking (Iron ore Zone)**, the information provided under "Mineral reject in tones along with grade" is incorrect and does not match with proposal. Necessary corrections to be done at all places.
9. Under "**Environmental Protective Measures**" information on plantation over virgin area, plantation over backfilled area and reclamation of mine out area by backfilling not provided. Necessary proposals to be made and accordingly necessary corrections at all places of the document to be done.
10. The information provided under "**Construction of**" is incorrect and should be corrected.
11. The reserve and resources as on **01.04.2018** should be rechecked and furnished.
12. Summary should be matched with the proposals.

CHAPTER 1- PART B GENERAL INFORMATION

13. In para 2.1, Name of lessee, address and mobile number should be corrected and necessary information to be furnished.
14. In Para 2.4, Phone/Mobile Number, address, Email & Fax Number of all the partners to be provided.

PART V: REVIEW OF EARLIER APPROVED PROPOSALS

15. In Para 5.2, Number of pits proposed for development should be mentioned along with compliance and name of pit. The grid values in the location of development as mentioned in para 5.3 should be rechecked and corrected. The Northing and Easting should be mentioned along with grid values. The statement written under "actual work done" for year 2018-19 & 2019-20 should be corrected.
16. Information furnished in Para 5.4, 5.5, 5.7, 5.9, 5.10 is not as per format and also the data submitted is incorrect. Also reason for deviation needs to be mentioned. Necessary correction to be done at relevant places.
17. In para 5.14, the reason for deviation to be mentioned for the period 01.04.2017 to 02.12.2017.
18. In para 5.17, the reason for deviation for construction of less meterage of garland drain and retaining wall than proposed for the period 03.12.2017-18 to 2019-20 should be mentioned.
19. In para 5.20, 5.21, 5.22 & 5.23 information on year wise proposal along with year wise actual compliance should be given as per format only. Also, the information furnished under para 5.21 is incorrect. Year wise proposal and its compliance should be corrected. Necessary corrections to be done.
20. In para 5.28, the information to be provided in the format specified only. The breakup of the area in forest and no-forest should be given as required and specified in the format.
21. In para 5.29, the violation issued dated 27.03.18 should be mentioned.

CHAPTER 11- GEOLOGY AND EXPLORATION

22. In para 6.3, thickness of the ore body should be mentioned.

23. Information under para 6.5.1, 6.5.2 & 6.5.3 should be given in the format specified along with information already provided.
24. Information in para 6.5.5 should be given under the heading Forest and Non-Forest area separately as per the format specified along with the table provided. Need to do necessary corrections.
25. Information provided under Para 6.7, 6.8 calculated separately for forest and non-forest area should be rechecked. Necessary modifications to be done.
26. In para 6.6.1, information given under parameter "Explored depth (from surface/pit head) (m) should be corrected.
27. Compliance of Rule 12 (4) (a) of MCDR 2017 should be ensured and accordingly proposal for exploration to be modified.
28. The proposal under para 6.10 should be described in term of preservation of cores etc. Necessary modifications to be done.
29. Additional boreholes have be proposed where the existing boreholes have been terminated in ore zone or closed prematurely. Also few boreholes should be proposed to bring entire lease area in G2 category of UNFC at following coordinates.

Sl.No	Northing	Easting	Proposed Depth
1	2419053	335480	Till end of mineralisation
2	2419753	335580	Till end of mineralisation
3	2419953	336280	Till end of mineralisation
4	2421453	336230	Till end of mineralisation
5	2421353	335330	Till end of mineralisation
6	2421153	335480	Till end of mineralisation
7	2420753	335880	Till end of mineralisation
8	2420553	336080	Till end of mineralisation

30. The present assessment reserves and resources under various UNFC codes shown in Geological sections w.r.t boreholes grid spacing as per Part III of MEMC Rules, 2015 should be rechecked and corrected. The area under different 'G' axis categorization as per UNFC (G1/G2/G3/G4/Non-Mineralized) as per MEMC Rules, 2015 should be clearly demarcated over Geological Plan. As per MEMC Rules 2015, For General (G2) and detailed (G1) stages of exploration the depth continuity of mineralization may be considered limited to the depth up to which direct evidence of mineralization is established. The lateral extension to be considered for resource assessment shall depend on geological considerations supplemented by geological continuity by mapping or by other means and in any case shall not be more than 50% of the grid spacing of the probe points. Assessment based on selected information such as isolated assays, isolated drill holes, assays of panned concentrates etc. is not recommended. Hence the length of influence along with sections to be modified accordingly. Accordingly, the table under para 6.5.5 showing total lease area explored under various categories of G-axis should be corrected and reserves and resources have to be reestimated under various UNFC codes as per MEMC Rules, 2015.

CHAPTER III- MINING

31. In para 7.3, year 2018-19 is missed out. Year should be written. Need to correct.
32. In para 7.4, (i) Open cast Fully Mechanized method of mining should be mentioned. In 7.4 (viii), the grid reference of Kalimati pit proposed for production in 2018-19 should be mentioned. Need to do necessary correction.
33. In para 7.5, the information to be provided in specified format with all required details. Need to do necessary corrections.

CHAPTER V

34. In para 9.1, the lithology encountered as intercalated waste should be mentioned.
35. In para 9.1, the quantity of fines to be generated during the closure period should be rechecked and matched with the approved modification and review of mining plan. Need to justify the quantity with its grade.
36. All the tables under para 9.1 to be filled in as per format specified. Need to provide data as per format.

CHAPTER VI- MINERAL BENEFICIATION

37. In page 10, material balance chart should be given mentioning the beneficiation process, yield at each stage etc.

CHAPTER VII- FINAL MINE CLOSURE PLAN

38. Information under para 11.1 baseline information should be given within the lease area and its surroundings up to 500m from the lease boundary. Necessary modification to be done.
39. In page 86, para 11.1 (a) all the figures shown in the table should be rechecked and corrected along with total area. Also the actual area as on date to be specified in the table. Necessary corrections to be done.

40. In page 74, all the figures shown in the table should be rechecked and corrected along with total area. Also the actual area as on date **to be specified** in the table. Necessary corrections to be done.
41. In page 75, the reference of boreholes mentioned in block F1 where mineral is going to be exhausted and back filling proposed should be rechecked and corrected. Necessary correction to be done in para 11.2. 15 (6).
42. In page 75, para 11.2.1, the point mentioned that there will be no mineral reject stack at the end of 31.03.2020 should be rechecked and corrected as contradictorily in table in para 11.2.3, plantation has been proposed over subgrade dump. Since Mineral Reject and subgrade are synonymous then the proposal be corrected accordingly.
43. IBM appraisal of MP 2014 states that "Conceptual Mine planning up to the end of lease period taking into consideration the present 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". Hence, the table showing land degradation/reclamation at the end of scheme period and at the end of conceptual period should be corrected.
44. In para 11.2.2, the measures taken to secure mineralized dumps, mineral reject stacks, fines stacks, tailings stack etc. by means of fencing etc. should be mentioned and described elaborately. Arrangements proposed during mine abandonment plan and up to the site being opened for general public may be described. The lessee should ensure fencing of any excavation endangering fall of persons/cattle etc. in terms of rule 26 of MCDR 2017. The proposals should be supported with yearly plan and sections depicting yearly progress in the activities for protecting measures like fencing etc. The same should be shown in reclamation plan. Need to modify the para accordingly.
45. In para 11.2.3, proposal should be given separately for plantation existing, proposed and cumulative on virgin area, backfilled area, dump plantation and plantation on ultimate benches indicating area and number of saplings.
46. In Para 11.2.5, describe in detail the existing surface and ground water bodies available in the lease area and the measures to be taken for protection of the same including control of erosion, sedimentation, siltation, water treatment, diversion of water courses, if any, measures for protection of contamination of ground water from leaching etc. Quantity and quality of surface water bodies may also be indicated and the corrective measures proposed to meet the water quality conforming the permissible limits may also be described.. The water balance chart to be provided. Make of water in the lease area based on the average rainfall for last 5 years and catchment area should be informed. Necessary corrections to be done.
47. In para 11.2.7, waste management to be discussed under this para as per the requirement specified in IBM Manual for Appraisal of FMCP.
48. In para 11.2.10, the surface features existing within periphery of 500 m from lease boundary and supported by Environment plan as per Rule 32 (b) of MCDR 2017 should be described and reference of the environment plan to be mentioned. Necessary corrections to be done.
49. In para 11.2.11, information provided is inadequate. Need to provide complete details of the infrastructural facilities within the lease area as mentioned in the format. The existing infrastructural facilities and their future utilization should be evaluated and mentioned. The approximate value of each fixed assets/infrastructural facility available in the ML area should be given in tabular format along with its decommissioning cost and final value of the decommissioned infrastructural facilities. In no case, any infrastructural facility which is an essential commodity/related to basic need or which absence may cause and degradation of environment or any damage to flora and fauna in and around the ML area or any danger to public safety shall not be decommissioned without prior intimation /approval of appropriate authority, Necessary correction to be done.
50. In para 11.2.12, the decommissioning of mining machineries and their possible post mining utilization, if any to be described with reference to extent of mechanization given in the mining chapter. In page 84, it has been mentioned that decommissioning of all the machineries will be done from 01.04.2018 which is not permissible. Therefore, all the decommissioning activities has to be completed by 31.03.2020. Need to do necessary correction and modify the paragraph.
51. In para 11.2.13, the high risk accidents should be listed and emergency plan proposed for quick evacuation, ameliorative measures to be taken etc. The capacity of the lessee to meet such eventualities and the assistance to be required from local authorities to be described. Emergency preparedness plan to have name, designation and contact number etc. with area of responsibility. Necessary corrections to be done.
52. In para 11.2.14, the proposal submitted is not acceptable and should be modified. No activity should be proposed beyond 31.03.2020. Necessary modifications to be done in the paragraph.
53. The information provided in para 11.2.15 (8) and para 11.2.15 (10) is not acceptable as no activities should be planned beyond 31.03.2020. Hence necessary corrections to be done in these paragraphs.
54. In page 94, the schedule of implementation of FMCP may be rechecked such that all the activities are completed by 31.03.2020.

55. In para 11.2.16, the abandonment cost to be estimated based on activities required for implementing the protective and rehabilitation measures including their maintenance and monitoring programme only. Cost to be estimated based on the above parameters. Necessary corrections to be done.
56. In para 11.3, the information on protective measures for reclamation and rehabilitation works year wise should be provided as per the table specified in the format of FMCP. Need to do necessary corrections.
57. In para 11.4, the table for FA should be kept same as per the as per the table specified in the format of FMCP. Need to do necessary corrections.
58. Further, adequate proposal of retaining wall, garland drain, coir matting and settling tank to be given all along the waste dumps and mineral reject dump. Proposal for proper terracing and stabilization of slope to be given. The dead dumps should be proposed for fully rehabilitation by plantation and with gap plantation.
59. Information on para 12 should be as per the information required as specified in the format for FMCP.
60. A firm proposal of evacuation of Mineral reject stacks/mineral reject dumps/temporary mineral reject stacks/temporary subgrade stacks/temporary ROM stack/any temporary stacks/fines stack/ lumps stack etc. to be given and same should be evacuated before 31.03.2020.

ANNEXURES

1. Few color photographs showing present the land use of the area, environmental status of the area/Ground control points / lease boundary pillars should be enclosed.
2. The photo identity card of the lessee is not legible/visible. Need to submit clear/visible photo identity card of lessee, preferably the color copy along with clear/visible/legible address proof. Photo Identity Card of Lessee with permanent address proof duly signed by lessee should be enclosed.
3. Certificate of registration of the company and memorandum of the association to be enclosed.
4. Copies of all Form J, Form K or Form I and Form J as per MCDR 2017 of all the boreholes should be enclosed with the document.
5. Section wise reserve /resource calculation should be enclosed with the document.
6. All the annexures as specified in the format should be enclosed along with the annexures provided.
7. All the annexures should be signed with date by qualified persons.

PLATES

- i) Show a scale of the plan at least twenty-five centimeters long and suitably sub-divided;
- ii) The conventions provided under the Metalliferous Mines Regulations, 1961, shall be used in preparing all plans and sections
- iii) All plans and sections should comply with the provisions of Rule 32 of MCDR 2017.
- iv) 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.
- v) All plans and sections should be signed with date by Qualified Person.
- vi) Entire lease area should be plotted on grid lines at regular intervals (North-South and East West directions) with grid values marked on each side of the plan.
- vii) Along with local grid coordinates, UTM coordinates should also be provided in the grid lines.
- viii) The UPL has to be redrawn based on provision of UNFC boundaries as per MEMC Rules 2015 and should be shown in red color in all relevant plans and sections.
- ix) The proposed bench mRL to be mentioned in the all relevant plans and sections.
- x) Date of survey should be given on plan and sections and the same should be signed with date.
- xi) All the plans should be submitted in UTM coordinate system.

Key Plan

- i) The adjoining area lying preferably within five kilometers should be shown and marked in key plan.
- ii) Predominant wind direction may be shown with Wind rose diagram in key plan.
- iii) Approach road to lease area should be shown in key plan.
- iv) The provisions of Rule 32 (5a) of MCDR 2017 should be complied.

Surface Plan:

- i) Entire lease area should be plotted on grid lines at regular intervals (North-South and East West directions) with grid values marked on each side of the plan.
- ii) Few pillars may be correlated with some permanent ground features giving distance and bearing/direction.
- iii) The surface plan should be updated with existing surface features/pits etc. as discussed in field.
- iv) Top and bottom RL of Pits shown in Surface Plan should be mentioned.

- v) UTM coordinates to be mentioned along with local coordinates.
- vi) The coordinates of the boundary pillar in UTM and lat/long should also be provided in tabulated format.

Geological Plan & Section:

- i) Entire lease area should be plotted on grid lines at regular intervals (North-South and East West directions) with grid values marked on each side of the plan.
- ii) Mineralized part of the lease area along with Forest and Non-Forest area should be distinctly shown in the plan.
- iii) All the drilled boreholes drilled should be updated in Geological Plan.
- iv) The area under different 'G' axis categorization as per UNFC (G1/G2/G3/G4/Non-Mineralized) as per MEMC Rules, 2015 should be clearly demarcated over Geological Plan. The redefined UNFC boundaries should be drawn in Geological Plan and UNFC codes should be mentioned in Geological sections. UPL to be redrawn in Plan and sections.
- v) The UPL from the sections which have been proposed for drilling should be removed.
- vi) The index of the geological Plan and sections to be updated.
- vii) In Geological Plan, cross section lines and longitudinal section line to be shown. A longitudinal section of the lease area should be shown.

Development plan & Section:

- i) No proposal for dumping (waste dumping /mineral reject dumps) be within the UPL.
- ii) Development sections have not been enclosed. The lithology of the area should be clearly shown in year wise development plan and sections in the area proposed for development. The same should be enclosed with the document.

Environment plan:

- i) The Environment Plan as prepared should be satisfy the provision as laid down rule 32(5) (b) of MCDR2017.
- ii) The adjoining area within 60m of boundary of the lease area to be plotted. The particulars with regard to items (ii), (iv) and (v) of Rule 32(5) (b) shall be applicable only up to sixty meters beyond the boundary of lease area. The same should be demarcated in Environment plan. The adjoining area within 500 m of boundary of the lease area is not properly demarcated. The same should be corrected. The information on adjacent mine as available may be shown within the 500m of boundary of the lease area.
- iii) The contour values at 5m interval are not prominent. Necessary corrections to be made.
- iv) 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.
- v) Predominant wind direction may be shown with Wind rose diagram in key plan.

Reclamation Plan:

- i) Adequate proposal of retaining wall, garland drain, coir matting and settling tank to be given all along the waste dumps and mineral reject dump. Proposal for proper terracing and stabilization of slope to be given. The dead dumps should be proposed for fully rehabilitation by plantation and with gap plantation. Plantation should be proposed along the slopes of waste dumps.
- ii) All the temporary subgrade stacks from pits (Block B Pit 4, Block E Pit 6 , block F1etc.) should be removed by end of 31.03.2020.
- iii) All the fines and lump stacks should be removed from the area. Proposal should be submitted accordingly.
- iv) All the pits/quarry should be fenced. Proposals should be checked and modified accordingly.
- v) Plantation all along the along the safety zone should be proposed.
- vi) It was observed during inspection that proposals for mined out area matured for reclamation has not been furnished. Sequence of filling should be same as original sequence of lithounits occurring in the lease area. Necessary corrections to be done.
- vii) The index of the existing retaining wall and garland drain around the dump does not match with the index of the retaining wall and garland drain shown around the dump. Hence proposal should be submitted for provision of construction of retaining wall and garland drain all around the existing and proposed waste dump and mineral reject dumps, if any. Environmental protective measure should be constructed around all the dumps.
- viii) Proposed coir matting along the dumps has not been shown in index of proposed features. Same should be shown in the plan. All the dumps should be stabilized. Necessary corrections to be done.
- ix) Stabilization of waste dumps should be done through coir matting and plantation. Need to submit the revised proposal and same should be updated in relevant portions of text and plates.
- x) The colour code of garland drain and retaining wall should be distinctly different.

