



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/38-ORI/BHU/2018-19

दिनांक / Date: 31.08.2018

To

Shri Praveen Saraf,
Nominated Owner,
Aryan House, P-1, Hide Lane,
8th Floor, Kolkata-700073.

Sub: Approval of Final Mine Closure Plan of Narayanposhi Iron & Mn. Mines over an area of 349.254 ha in Sundargarh district of Odisha of M/s Aryan Mining Trading Corporation Pvt. Ltd. submitted under Rule-24 of Mineral Conservation and Development Rules, 2017.

Ref: - i) Your letter no. 661/AMTC/IBM/18-19 dated 16.08.2018 received on 21.08.2018.
ii) This office letter of even no. dated 21.08.2018.
iii) This office letter of even no. dated 21.08.2018 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 Final Mine Closure Plan (FMCP) has been examined in this office based on earlier site inspection carried out on 17.04.2018 by Shri Sudip Ranjan 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 should be submitted in Auto CAD compatible format and JPG format in resolution of 100x100 pixels on same CD)** 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 necessary action to:

1. Shri Minaketan Naik, Qualified Person, M/s AMTC Pvt. Limited, At/Post-Koira, Dist-Sundargarh, Odisha-770048.
2. Shri Pradeept Mohapatra, Qualified Person, At-Unchabali, Post-Bamebari, Joda, Dist-Keonjhar, Odisha, Pin-758034.

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

Scrutiny comments on examination of FMCP of Narayanposhi Iron & Manganese Ore Mine over an area of 349.254 Ha Sundergarh District of Odisha State of M/s AMTC

GENERAL:

1. FINAL MINE CLOSURE PLAN submitted under Rule 24 of Mineral Conservation and Development Rules, 2017* (*in terms of Section 8A (3), (5) or (6) of MMDR Amendment Act'2015') has not been mentioned. Mining Lease number, lease period and qualification of the qualified person has not been mentioned in the cover page.
2. The CONSENT LETTER/ UNDERTAKING/ CERTIFICATE submitted by the nominated owner is not as per the format specified in IBM Manual for Appraisal of Final Mine Closure Plan.
3. The term "subgrade" should be replaced by "mineral reject" at all places in the document.
4. Any proposal of decommissioning & dismantling infrastructure, evacuation of ore stack/mineral reject stack, mining machineries etc. has to be completed by 31.03.2020. Accordingly, proposals have to be modified at all relevant places in the document.

CHAPTER 1: INTRODUCTION AND GENERAL INFORMATION

PART B – GENERAL INFORMATION

5. Para 1.1.1, the mobile number of the lessee has not been furnished.
6. Para 1.1.4, the phone & fax number of the Director has not been furnished.

PART C – LOCATION AND ACCESSIBILITY OF MINE

7. Para 1.2.2: TC No and lease code has not been furnished.
8. Para 1.2.7: Area acquired/ surface rights/ consent obtained over non-forest area and forest area has not been specified separately.
9. Para 1.2.11, the information furnished is incomplete.

PART D – DETAILS OF LAST APPROVED MINING PLAN

10. Para 1.4.4, the information of top soil from iron ore zone has not been furnished in format. Further, the reason for deviation for manganese ore zone has not been furnished.
11. Para 1.4.6, Production of Graded Ore (tonnes) has not been furnished.
12. Para 1.4.7, the reason for deviation in generation and subsequent utilization of mineral reject has not been provided.
13. Para 1.4.9: Information on total quantity of fines (in tonnes) generated, utilized & stacked as per proposal and actual work done has not been furnished correctly.
14. Para 1.4.12: The grid values of actual location of top soil stack has not been furnished.
15. Para 1.4.14 & 1.4.15: Location of mineral reject stacks & fines has to be rechecked and corrected.
16. Para 1.4.16: Year wise proposal and actual work done has not been furnished.
17. Para 1.4.17: Location of construction of retaining wall as proposed and actual work done has not been furnished. In reason of deviation, the reference of garland drain is mentioned instead of retaining wall under the proposal of retaining wall. Reason of deviation has not been mentioned properly.
18. Para 1.4.20: The information furnished has to be rechecked and corrected. Also, reason for deviation has not been mentioned.
19. Para 1.4.21: Information furnished does not match with the proposal. Actual work done to be rechecked.
20. Para 1.4.22 information furnished under proposal /actual work done should be rechecked and corrected.

CHAPTER 2: GEOLOGY AND EXPLORATION

21. The details of All drilled BH to be given as per following tabulated form:

| S. No. | Year | Age ncy | BH Id | Easting | Northing | Collar RL | Inclination | BH Type (Core/RC /DTH) | BH depth | No. of samples | Remark |
|--------|------|---------|-------|---------|----------|-----------|-------------|------------------------|----------|----------------|--------|
| 1 | | | | UTM | UTM | mRL | | | | | |

22. The details of exploration carried out to be submitted as per following format.

| Area (in Ha) Explored under G1 and G2 as per UNFC | | | | Remaining area (in Ha) to be explored under G2 as per UNFC | | Required number of boreholes for exploration of balance lease area under G1/ G2 level | |
|---|----|------------|----|--|------------|---|------------|
| Forest | | Non-Forest | | Forest | Non-Forest | Forest | Non-Forest |
| G1 | G2 | G1 | G2 | | | | |
| | | | | | | | |

23. Para 2.1: Topography of the lease area along with chemical constituent of rocks and mineral rejects available in the lease area has not been furnished. Updated reserves/resources for in-situ as well as mineralized dumps in concurrence with approved SOM has not been furnished. Alongwith in-situ orebody, mineralized dump, mineral rejects (grade or size rejects) stack as available at the mine site, shall also be secured. An account of all mineralized dumps/mineral stacks shall be furnished indicating its quantity, grade, size classification/distribution and shall be shown on all relevant plans mentioning its dimensions (length, breadth and height or Area and height) with appropriate number of sections.
24. Para 2.2.1: The information in tabular format as prescribed in IBM appraisal of FMCP has not been furnished.

25. Para 2.2.2: The information on depth explored as per UNFC has not been furnished along with meterage drilled. Additionally, the information furnished should be rechecked and corrected.
26. Para 2.2.5: Depth explored as per UNFC has not been furnished under the column "Depth (meter) along with total meterage drilled. Further, the maximum explored depth also has not been furnished as per format.
27. Para 2.2.6 & 2.3: Information submitted is not in concurrence with the approved scheme of mining.
28. Para 2.4: Proposal for compliance for Rule 63 of MCDR 2017 should be described elaborately.

CHAPTER 3: MINING

29. Para 3.3: Information submitted is not in concurrence with the approved scheme of mining.

CHAPTER 4: STACKING OF TOP SOIL, MINERAL REJECT, FINES, TAILINGS AND DISPOSAL OF WASTE

30. Para 4.1: All the information has not been furnished as per the IBM appraisal of FMCP format e.g. location with grid values, stack/dump number name etc.
31. Para 4.2: Information provided is not in concurrence with the approved SOM e.g. information of fines from iron ore zone, top soil from manganese ore zone is not as per the approved SOM etc.
32. Para 4.3: Information has not been furnished as per the IBM appraisal of FMCP format.
33. Para 4.4: Information has not been furnished as per the IBM appraisal of FMCP format such as storage location etc. has not been furnished.
34. Details of characterization of solid waste and liquid waste along with mitigative measures to avoid any environment degradation have not been furnished.

CHAPTER 5: FMCP

35. The baseline information given in the approved SOM has not been furnished.
36. **Para 5.1.1 (Mined-Out land):** Sequence of backfilling should be same as per original sequence of the litho units occurring in the lease area. Plantation of the backfilled area has not been proposed. It is mentioned that "quarry 5 is likely to be exhausted during the period" but no proposal of reclamation and rehabilitation has been proposed. Necessary corrections to be done.
37. **Para 5.1.2 (safety and Security):** It is mentioned that none of the quarry will be exhausted and hence there is no proposal for reclamation and rehabilitation of mined out land whereas backfilling has been proposed in the mined out part of quarry 3. Hence necessary corrections to be made and proposal for reclamation and rehabilitation of mined out part of the quarry has to be submitted. Proposal for fencing has not been submitted for dumps, mineral rejects stacks, fines stack/lump or sized ore stacks/tailings or slime stacks. If proposal for evacuation of existing fines stack, fines dump, mineral reject dump etc. is not proposed before 31.03.2020 then the same should be secured through fencing, construction of retaining wall, garland drain etc. and stabilized through coir matting etc. Necessary corrections to be made in the proposals.
38. **Para 5.1.3 (Afforestation):** Plantation over backfilled area and dump plantation has not been proposed. In case dump plantation information on area and number of saplings to be planted has not been proposed. Adequate proposal of plantation to be given on matured slopes of the waste dumps and backfilled area. Coir matting has to be proposed for stabilizing the fines stacks etc. if retained within lease beyond 31.03.2020.
39. **Para 5.1.4 (Top Soil Management):** No proposal has been submitted for either utilization of top soil generated from manganese ore zone and existing top soil stacks or to stabilize and secure top soil stacks. Necessary corrections to be made in proposal.
40. **Para 5.1.5 (Water Quality Management) :** Describe in detail the existing surface and ground water bodies available in the lease areas in terms of IS: 10500 OR IS:2490 and the measures to be taken for protection of the same from contamination from leaching etc. Quantity and quality of runoff mine water shall be indicated and corrective measures proposed to meet the water quality conforming the permissible limits shall also be described. Water balance chart and Report of hydrological study carried out in the area shall be submitted. Water balance chart and Report of hydrological study (if any) carried out in the area shall be submitted. Make of water in the lease area based on the average rainfall for last 5 years and catchment area and pumping and other arrangements for dewatering (along with annual cost) shall be informed. The details to be submitted in tabulated form comprising location (core and buffer zone), grid reference, parameters of monitoring, frequency of monitoring etc. for water monitoring stations.
41. **Para 5.1.6 (Air Quality Management):** Describe the existing air quality status. The mitigative measures to be taken for prevention of pollution of air from airborne dust particles should be described. The information of the air quality monitoring station to be furnished for both core and buffer zone. Further, the location and grid reference to be indicated in table proposed for air quality management. Similar information in detail to be furnished for noise monitoring stations (as furnished for air).
42. **Para 5.1.7 (Waste Management):** Table shown should specify waste generation from iron and manganese ore quarry separately. The protective measures to be taken for prevention of siltation, erosion and dust generation from these waste materials should also be described. The details of plantation proposed over waste dumps to establish dead slope of the dumps to be given in tabulated form comprising dump number, grid reference, area proposed, number of sapling, year of proposal. The quantity of mineral reject generation from quarry 5 should be furnished in cum as well as in tones. All the proposals for evacuation of mineral reject dump of iron ore and manganese ore should be up to 31.03.2020 only. Necessary corrections to be done.
43. **Para 5.1.8 (Tailing Dam Management):** Proposal has not been submitted for managing the tailing dam area identified for disposal of tailings in form of cake, its fencing, confinement of tailing material and its utilization, arrangement for surplus water overflow along with design details, to arrest seepage, structural stability studies, ground water contaminant, if any, shall be given along with periodic de-silting proposals. The grid reference has not been furnished. Complete chemical analysis of tailing dam discharge water should be furnished along with mitigation measures, if any, necessitates.

44. **Para 5.1.11 (Infrastructure details):** It has been mentioned that existing infrastructure will be handed over to successful bidder but proper financial evaluation and its depreciation costs etc. has not been evaluated for its future utilization. Also, measures to be taken for their physical stability and maintenance have not been described. If decommissioning proposed, dismantling and disposal of building structures, support facilities and other infrastructure, electrical equipments and infrastructures such as electric cables, transformers etc. should be described. The evacuation of mining machineries as proposed has to be completed by 31.03.2020 and the same has to be specified.
45. **Para 5.1.13 (Disaster and Risk Assessment):** Action plan and emergency plan for quick evacuation has not been furnished. The capability of lessee along with assistance required from local authorities has not been mentioned. Also, risk assessment as the IBM appraisal of FMCP has not been furnished.
46. **Para 5.1.14 (Economic Repercussions):** The resource estimated to be left after 31.03.2020 is incorrect. The evacuation of ore from the mining lease area has to be completed before 31.03.2020. No proposal should be submitted for evacuation of ore, transportation of ore, mineral reject etc. from the lease area beyond 31.03.2020. Reference of PMCP should be replaced with FMCP.
47. **Para 5.1.15 (Time Scheduling for Closure):** Proposal for decommissioning/demolition/removal of infrastructure/removal of equipment and heavy machineries cannot be beyond 31.03.2020 and should be completed before 31.03.2020. Hence, revised detail of time schedule for all closure operation as discussed in Chapter V (FMCP) has to be submitted in bar chart.
48. **Para 5.1.16 (Closure Cost):** Closure cost has to be reestimated considering the parameters of above point no. 5.1.15. Cost to be estimated based on the activities required for implementing the protective and rehabilitation measures, maintenance and protective works as envisaged during post closure period shall also be mentioned along with annual cost estimates towards pumping duty, ventilation, maintenance of dumps, watch & ward etc.
49. **Para 5.1.17 (Post closure monitoring schedule as envisaged and estimated cost):** Cost to be reestimated as mentioned in above points. Monitoring schedule has not been furnished.
50. **Para 5.2: Under Dump Management:** Grid reference for coir matting, any other method of rehabilitation under forest & non forest area has not been furnished. Under reclamation/rehabilitation of mined out area, the grid reference for voids available for backfilling has not been mentioned. The backfilled area has to be rehabilitated by means of plantation. Therefore, area for rehabilitation (ha), grid reference, proposal for afforestation on the backfilled area (ha), no of saplings to be planted has to be furnished. Cumulative area (in ha) to be rehabilitated along with rehabilitation cost has to be furnished.

PLATES

- i) true north or the magnetic meridian and the date of the later is not specified and not shown in plan and sections.
- ii) Local grid coordinates as shown in plates of approved SOM should be shown in all plates along with UTM coordinates in grid lines.
- iii) Plan and sections does not fulfill the requirement of Rule 31 and Rule 34 of MCDR 2017.
- iv) Key Plan: Features like village boundary, forest boundary, sanctuary, waste land, agriculture land etc. within five kilometer boundary has not been shown on the plan. Wind rose diagram and index is not legible in key plan.
- v) Surface Plan: Should comply the requirement mentioned under Rule 32 (a) of MCDR 2017.
- vi) Geological plan and section and year wise development plan and sections are not in concurrence with the approved scheme of mining. An updated geological plan should submitted showing G1/G2/G3/G4/Non-mineralized area.
- vii) Environment plan: Many of the features as indicated under rule 32(5)(b) of MCDR, 2017 has not been shown on the plan. Contour values are not legible. The boundary of 60 m and 500m has not been shown in the index. Contours are not shown at places within 60m from lease boundary.
- viii) Reclamation Plan: Proposal for stabilizing and securing top soil stack has not been shown; proposal for plantation over dump is inadequate; no proposal submitted for fencing existing water harvesting pond; existing retaining wall and garland drain have not been shown; no proposal submitted for fencing mn ore quarry, iron ore quarry, securing fines stacks; proposal for plantation over back filled area has not been furnished; year wise proposal of backfilling should be shown in separate colour; fencing of pond has not been proposed; the dump adjacent to pillar BP 52 to 51/8 has not been nomenclature; no proposal submitted for securing the dump via retaining wall, garland drain etc; coir matting over fines dump has not been proposed. Necessary corrections done in the reclamation plan should also be incorporated at relevant places in the text.

ANNEXURES:

- a) Copy of Board Resolution for declaration of nominated owner as per mines Act 1952 and list of board of directors to be submitted.
- b) Photo identity card of lessee/nominated owner with address proof should be submitted.
- c) Copy of form I and J as per MCDR 2017 to be enclosed for ready reference.