



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/16-ORI/BHU/2018-19

Date: 23.04.2018

To

Shri Praveen Saraf, Nominated Owner,
M/s Aryan Mining & Trading Co. Ltd,
Aryan House, P-1, Hide Lane,
8th Floor, Kolkata – 700073

Sub: Approval of Final Mine Closure Plan of Mahulsukha Manganese Mine over an area of 399.838 ha in Sundargarh district of Odisha State, submitted by M/s Aryan Mining & Trading Co. Ltd under Rule 24 of MCDR, 2017.

Ref: - i) Your letter No. 09/IBM/17-18 dated 27.03.2018.
ii) This office letter of even no. dated 03.04.2018.
iii) This office letter of even no. dated 03.04.2018 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 16.04.2018 by Shri Dilip Jain, Junior 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

SCRUTINY COMMENTS ON FMCP DOCUMENT IN RESPECT OF THE MAHULSUKHA MANGANESE MINES OF M/S ARYAN MINING TRADING CORPORATION PVT. LTD. OVER AN AREA OF 399.838 HA IN SUNDERGARH DISTRICT OF ODISHA STATE SUBMITTED UNDER RULE 24 OF MCDR, 2017.

(For the Lease expiring on 31/03/2020)

1. **General:** All the information for cover page mentioned in the guideline of “ IBM Manual for appraisal of Final Mine Closure plan, 2018” (hereinafter referred as format) to be mentioned like lease number/TC number, lease period, category of mine, phone, fax and e-mail of lessee, qualification of QP etc. Hence, necessary information to be provided on cover page as specified in format. Total lease to be mentioned. Rule position under which the document has been submitted to be revised as per MCDR, 2017.
2. It is observed at many places that the information has not been given as per guideline/format. Tables as specified in the format have been altered. Hence, all the tables should be as per the format and if any, additional table is required may be given with proper reference.
3. **Summary of proposal at a Glance:** It is observed that summery of proposal is not matching at places with the proposal made in MMP. If any additional proposal has been given in the FMCP, that should also be reflected in the summery of proposal with remark.
4. The position of reserve and resource submitted as on 01/04/2018 is not in concurrence to the approved document. Further, the balance reserve/resources as on 01/04/2018 has not been furnished separately for forest and non-forest area as per guidelines. The quantity shown as clean ore is actually salable ore, thus, in remark “salable ore should be mentioned”.
5. Para 2.4: Information in respect of all the directors to be submitted. Para 3.7: Different type of land details to be supported with documentary evidence. Para 3.13: All the boundary pillars should also be given in UTM for better referencing. UTM grid may also be depicted on the plan and sections. **Para 3.14: The details of self-assessment for star rating to be given with documentary evidence.** Reference of location map to be given. Check and rectify.
6. Para 5: 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.
7. Para 5.24 to 5.27: The information on environment monitoring data to be furnished along with location of monitoring station, frequency, prescribed limits of the parameter and actual analysis of the data. Para 5.28: the details of the area should be furnished as per the guideline for forest and non-forest separately. Information in respect of the violation and suspension by IBM has not been furnished in the document. Check and rectify.
8. Para 5.28: The information of the document like RMP/MP etc along with the date of approval to be given on the basis of which information of land used has been furnished.
9. **Geology and Exploration:** Entire exploration proposal to be given in the first year. Accordingly, exploration details to be revised in review chapter.
10. The level of exploration depicted on the geological plan is not as per the MEMC rule 2015. Hence, area mentioned for different level of exploration in para 6.5.5 to be revised and should be as per MEMC rule 2015. Accordingly, Geological plan to be revised.
11. As per rule 12 of MCDR, 2017 entire lease area to be explored by 31/03/2019. Hence, all the updated information of exploration carried out in lease area to be submitted with adequate/additional proposal of exploration to explore entire lease area as per rule. A bar chart indicating timeline for implementation of proposed exploration activities should be enclosed.
12. Para 6.5.2: the details of exploration to be submitted as per prescribed format. Para 6.5.3: As per format at least 10% of total samples to be analyzed in accordance to BIS and reports form NABL accredited/Government Laboratory. Accordingly, BH wise sample details to be given and 10% of total samples to be analyzed from NABL accredited/Government Laboratory. Further, in para

6.5.3, the details of BH wise sample collected and analyzed to be furnished. Para 6.5.4: Documentary evidence for expenditure occurs in exploration to be submitted.

13. Para 6.5.5: Area explored under different category to be furnished as per format for forest and non-forest separately. Further, in para 6.6.1, information furnished is not as per the guideline. Explored depth/mRL to be mentioned, threshold value etc.
14. Para 6.6.3, reference of feasibility study report to be mentioned. Backup estimation calculation of mineral blocked to be enclosed. Para 6.6.5: Justification for economic axis to be given as MEMC rule 2015. Para 6.10: Compliance of rule 12(4A) of MCDR, 2017 to be ensure and accordingly proposal of exploration to be revised.
15. Para 6.10: Details of proposed 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. Further, 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 indicated.

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

16. Para 6.11: It is to propose that all the cores/samples etc will be stored properly for future use and will not be destroyed prior approval of the competent authority. Brief details regarding preservation of cores should be given. The cores should be stored serially with suitable indexing and cataloguing and shall insure the submission of cores to GSI. The proposal of storage location of core/samples to be given and mentioned in text along with showing on the plan.
17. **Mining:** The details should be in concurrence with the approved Mining Plan/RMP/MMP or approved Modified mining Plan in terms of Rule 12(4A) of Mineral Conservation and Development (Amendment) Rules, 2018. Information to be furnished for the period from 2018-19 to 2019-20. Para 7.5: The details of all the machineries as furnished in approved RMP to be given in the para. Extent of mechanization to be given separately for contractual and lessee with capacity, make and other information as per format.
18. **Mine Drainage:** 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. Further, all the surface runoff should be allow through setting tank and only after that final discharge to be allow. Accordingly proposal to be made.
19. **Stacking of top soil, MR, Fines, Tailing/slime and disposal of waste:** Para-9.1: The details of all existing Waste dump, Mineral reject dumps, Stacks with quantity, soil dumps, fines, etc. to be given as per specified table of format. Further, the details of top soil and waste/OB disposal management during the closure period of two years should be furnished as per table below:

| Year | Top soil (cu.m) | | OB/Waste (cu.m) | |
|-------|-----------------|------------------|-----------------|--------|
| | Top soil reuse | Top soil storage | Backfilling | Dumped |
| I | | | | |
| II | | | | |
| Total | | | | |

20. The quantity of waste material mentioned at places is not matching with approved document. Check and rectify. **Mineral beneficiation:** The details of total water requirement, source of water, its extent of recycling, water balance chart, use of water for domestic and industrial purpose to be described.
21. **Final Mine Closure Plan:** Para-11- Baseline information of the lease area should be described on the basis of information incorporated in first approved mining plan at the time of grant of ML. Baseline information to be furnished separately for Noise, Air, flora and fauna and climatic condition. Existing base line information to be furnished on the basis of environment monitoring parameter carried out. The environment monitoring data of last one year to be enclosed for ready

- reference. Further, base line information to be furnished for Mining Lease area and surrounding 500 meter form lease boundary.
22. Para 11.2.1: Quarry 3 is proposed to be backfilled, hence, the grid value of proposed backfilling area, level of backfilling, area proposed for backfilling, etc. to be indicated in text and reclamation plan. Sequence of filing should be same as per original sequence of the litho units occurring in the lease area. Plantation proposal over matured area to be given. Therefore detailed reclamation and rehabilitation program of backfilled area should be proposed. The proposals may be supported with yearly plans and sections depicting yearly progress in the activities for land restoration/reclamation/rehabilitation, afforestation etc called "Reclamation Plan".
 23. Para 11.2.2: The lessee should ensure fencing and security of all Excavations/ pits/ Underground Openings/ Mineralized Dumps or Mineral Rejects stacks/ Fines stack/ Tailings or Slimes stacks endangering fall of persons/cattle etc. in terms of rule 26 of MCDR 2017. It is observed that proposal has not given adequately. Accordingly proposal to be revised. Further, arrangements proposed during the mine abandonment and upto the site being opened for general public may be described.
 24. Para 11.2.3: As discussed during site visit, proposals should be given separately for existing plantation, proposed and cumulative plantation on Virgin area, Backfilled area, Dump plantation indicating area and number of saplings. Same to be furnished in tabulated form. Grid reference to be mentioned. Gap filling plantation proposal to be given in the existing plantation area.
 25. Para 11.2.5: All the features as mentioned in the format have not been described. Same needs to be described considering mine drainage plan.
 26. Para 11.2.6: The mitigative measures to be taken for prevention of pollution of air to be described. The location of air monitoring station and its monitoring frequency to be described. Similar information for other environment monitoring parameter to be given.
 27. Para 11.2.7: The details of existing dumps to be given in tabulated form along with grid reference. The manner in which the waste material will be stabilized to be described. 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/matured dumps/dump slopes should be proposed for fully rehabilitation by plantation and with gap plantation.
 28. A firm proposal of evacuation of Mineral reject to be given and same should be evacuated before 31.03.2020. Hence, information of all the available mineral reject dumps and generation of mineral reject during proposed period and its evacuation form lease to be given.
 29. Para-11.2.11: The details of all existing infrastructure available in the lease area should be furnished in tabular form and their present value and value at the end of 31/03/2020 after depreciation. Further their future utilisation should be evaluated. The decommissioning cost and final value of the decommissioned infrastructural facilities if any may be furnished. Further, it is to indicate to retain the area in the auction by lessee.
 30. Infrastructure details of essential commodity/related to basic need to be given and in no case, any infrastructural facility which is an essential commodity/related to basic need or which absence may cause any degradation of environment or any damage to flora and fauna in and around the ML area or any danger to public safety or public infrastructure like rail, road etc. shall be decommissioned (dismantling water supply, water treatment plant, power lines etc.) without prior intimation/approval of appropriate authority.
 31. Para-11.2.12: Decommissioning of mining machineries and their possibility of post mining utilization, if any may be described. Back-up calculation of decommissioning of mining machineries to be enclosed for ready reference.
 32. Para-11.2.14: The details of contractual and on role man power to be given. The economic repercussions due to closure of mine have not been explained properly. Envisaged repercussions on the expectation of the society due to closure of mine. Number of local residents employed in the mine, compensation, satellite occupations should be describe considering the impact of closure of mines.

33. Para11.2.15: Possible closure activity like waste dump management (Garland drain, retaining wall, settling tanks, plantation), safety and security (fencing of pits, dumps etc), of proposal should be started from the year 2018-19.
 34. Para11.2.16: backup calculation of activity mentioned under the para to be enclosed. Abandonment cost as furnished in tabular form has not includes the cost of material required, safety measures implemented to prevent access to surface openings/excavations/dumps etc. The cost of maintenance, security and supervision has also been not included. Abandonment cost to be estimated based on the activities required for implementing the protective and rehabilitation measures including their maintenance and monitoring programme. Accordingly modify the cost of the abandonment.
 35. **Plates:** General: All updated plans and sections to be submitted (by the end of March 2018). Accordingly all relevant tables in text and plan to be modified. The date of survey to be mentioned in all the plans and sections.
 36. Key Plan: The approach road to lease area has not shown. Many of the feature as prescribed under rule 32(5) of MCDR, 2017 has not been shown on the plan like village boundary with population, forest with tree density, sanctuary, waste land, agriculture land etc. The prominent wind direction to be shown with wind rose diagrammed in key plan and environment plan.
 37. Surface Plan: The surface plan to be updated as discussed during the field. Further, outline of proposed excavation block, waste dumping block, mineral storage block etc. as per the approved document to be marked.
 38. **Geological Plan & Section:** During field visit it is observed exploration of the lease area being carried out by the way of exploratory drilling. All the drilled BH to be depicted on the geological plan. The table of proposed exploration to be depicted on the geological plan. A separate plan showing different level of exploration and relevant information to be submitted for more informative along with geological plan. Litho and ore zone to be marked on the drilled BH and accordingly correlation of different litho unit to be made over the sections and and should be match with geo plan. All the proposed BH to be indicated on the section along with collar, proposed depth at the end.
 39. FMCP or Reclamation plan: Proposal of plantation over matured dump terrace to be revised as discussed. Further, adequate retaining wall and garland drain to be given along the exiting dumps, mineral reject dump and area of mineral stack. All the proposed features in PMCP to be depicted year wise in the plan. The color code for existing and proposed feature should be different. Accordingly, reclamation plan to be revised. All the proposed features in tabulated manner may be depicted on the plan. Proposal of fencing to be started from the first year.
 40. Enclosures: Copy of form I and J 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.
 41. The photo id proof submitted in respect of the Director and nominated owner is not legible. A legible copy of same to be enclosed. Copy of DIN as allotted to all the directors of the company by competent authority to be enclosed. Many of other annexures also not legible. Same to be replaced with legible copy.
 42. Para 5.29: Copy all of violation/ show-cause notice and its compliance to be enclosed. Copy of the details land schedule as per DFO letter dated 29.03.2016 to be enclosed. Few word and sentence are found missing in certificate. Check and rectify. Para 6.6.4: Resource estimation for blocked ore to be enclosed and reference of same to be given in the text.
 43. Signed Self-assessment copy of star rating to be submitted. All the annexure to be properly numbered/paged and signed by the QP. Annual return of last three years to be submitted.
 44. NABL Accreditation certificate of laboratory from where Chemical Analysis carried out should be enclosed. Some photographs covering ML Boundary pillars, mining activity, dumps, processing plant, core shed etc. to be enclosed.
- In view of above comments and site inspection discussion, wherever necessary correction required to be made in plates, text and summery of proposal at a glance.