



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. RMP/A/42-ORI/BHU/2020-21

Date: 23.12.2020

सेवामे

Shri Rajib Lochan Mohanty, Managing Director,  
M/s MG Mohanty,  
5A, Forest Park,  
Bhubaneswar-751009

विषय: Approval of Review of Mining Plan of Patabeda Iron & Mn Mine along with Progressive Mine Closure Plan (PMCP), over an area of 14.00 ha in Sundargarh district of Odisha State, submitted by M/s MGM Minerals Ltd under Rule 17 of MCR, 2016.

- संदर्भ: - i) Your letter No. MGM/CO/2020-21/12-155 dated 11.12.2020 received on 14.12.2020.  
ii) This office letter of even no. dated 14.12.2020.  
iii) This office letter of even no. dated 14.12.2020 addressed to Director of Mines, Government of Odisha copy endorsed to you.

महोदय,

This has reference to the letter cited above on the subject. The draft Review of Mining Plan along with Progressive Mine Closure Plan (PMCP) has been examined in this office by Shri Dayanand Upadhyay, Senior Assistant Controller of Mines & 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 Review of Mining Plan in the light of the contents vide Annexure 1 and submit **three (3) firm bound and two (2) soft copies of the document text in USB Pendrive/Flash drive 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 USB Pendrive/Flash drive )** with financial assurance under Rule 27 of MCDR 2017 of the Review 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 Review 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 final copies of the Review of Mining Plan. It may be noted that no extension of time in this regard will be entertained and the Review 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,  
6/12/2020  
(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 comment of Review of Mining Plan including PMCP in respect of Patabeda iron ore mine, Lease area 14.0 ha of M/s M.G.Mohanty in Sundargarh district of Odisha State.**

**GENERAL:**

1. Diversified forest area to be furnished on cover page. In introduction chapter brief history of the mines, surface right, supplementary lease deed if any in light of MMDR (Amendment) Act and 2015 should be furnished with documentary evidence. The review of mining plan is submitted under rule 17(2) of MCR 2016 while in introduction chapter it is mentioned under rule 17(1) of MCR 2016. It may be re-checked and corrected.
2. Page-3, Para(b), it is mentioned modification of mining plan however the instant document as submitted is the review of mining plan. It may be re-checked and corrected.
3. The experience of qualified person should be clearly stated in supervisory capacity in the field of mining as per provision of rule 15(b) of Minerals (Other than Atomic and Hydro Carbons of Energy Minerals) Concession Rules, 2016.
4. All the annexure to be properly indexed/ numbered/ paged and signed by qualified person. All the certificates should bear dated signature.

**GEOLOGY:**

5. The lithology shown in the borehole log should be match with the lithology shown in geological plan and sections. The structural information like strike (direction and length), dip, dip-direction etc. are to be shown in geological plan.
6. Page-16, the deposition of various litho units indicating structural features as furnished in text should be described item wise in brief with their thickness/depth. In the geological section litho contact has not been marked correctly.
7. In page 20, Para (iii), the details of the sample analysis indicating type of sample should be given in tabulated format and nos. of sample analysis from NABL/Govt. lab out of total sample should be furnished along with annexure.
8. Page 22, the complete lease area is to be cover under exploration under G1 level up to end of mineralization as per provision of rule 12(4) of MCDR, 2017. The depth of the boreholes proposed should be considered considering the lateral and depth wise continuity of ore body in geological cross-sections and till the end of mineralization intersecting the ore body at depth. The exploration proposal has not been submitted as per the format specified in IBM Appraisal of MP 2014. Further, the details of individual proposed boreholes should be furnished in following tabulated format. Need to do necessary corrections.

Sl. No	Year of drilling	Section No	Proposed BH No	Core/ RC/ DTH	Northing	Easting	Collar RL	Borehole Inclination	Proposed Depth	Forest area/ Non forest area/ diverted forest area	Area having surface right/ non-surface right area	Purpose of BH

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.

9. The proposed bore holes should be depicted in geological section in dotted lines with their depth and RL for better referencing. Need to do necessary corrections in Geological sections.
10. The area explored under G1/G2....have not been marked In Geological Plan as per the provisions of Minerals (Evidence of Mineral Contents) Rules 2015. Page-24, the area explored under G1/G2 level of exploration as furnished in table are not correct. The boundary of G1/G2 line is not demarcated in plan. The non-mineralized area should be clearly depicted on geological plan. Need to do necessary corrections.
11. The drilled bore holes as depicted in geological plan are to be furnished with their complete bore hole logs. The relevant forms of intimation of all bore holes are to be submitted along with borehole logs as annexures.
12. Page-23, based on the deduction of ROM production from the reserve of earlier approved document the depleted reserve has not been furnished. Further if any enhancement/reduction of reserve/resources is established based on the exploration data etc. Then it should be clearly described.
13. Page-25, the method of reserve estimation may be further elaborated and justified w.r.t recovery factor, Bulk density, Length of influence, nos. cross sections and bore holes considered in reserve and resource estimation. Necessary supporting documents to be furnished with respect to bulk density and recovery factor. Bulk density test report from NABL accredited laboratory needs to submitted. Need to do necessary corrections.
14. The reserve and resources has not been furnished as per provisions of Minerals Evidence of Mineral Contents Rules 2015. The reserve and resources are furnished in text under 111, 122 and 211 category however in geological plan and sections it is furnished under 121 and 221 category. The calculation tables of reserve and resources are also not matched with the geological plan and sections. It should be rechecked and corrected accordingly.
15. The justification of UNFC of G1/G2 axis, F1/F2 axis and E1 & E2 axis have not been explained based on exploration status of the lease area and feasibility report prepared. Justification of UNFC codes as per UNFC guidelines has not been furnished. Need to do necessary corrections



16. As per threshold value notification dated 25th April 2018, it is observed that the resources between the threshold value and the cut-off grade have not been reported separately. Considering the cutoff grade of 55% Fe as reported by lessee, reserves and resources of iron ore under different UNFC codes separately for ore and mineral reject have not been estimated. Need to submit the detail calculation of ore and mineral reject for different UNFC codes by cross-sectional method. In the final summary table in page 30, the quantity and grade of ore and mineral reject under different UNFC codes have not been furnished. Need to do necessary corrections.

#### **MINING:**

17. Page-34, the details of existing quarry as furnished in table has not been updated. The size of the quarry in terms length, width, top RL and bottom RL not matched with the surface plan. Similarly the top and bottom RL of the existing dumps are also not correctly furnished and not matched with surface plan. It should be re-checked and corrected.
18. Page-35, proposed method of mining should be furnished in light of development plan i.e production capacity, nos. of pits proposed for production, waste dump and other designing parameters to be discussed.
19. The lease deed is valid upto 07/03/2026 however the five year proposal of the review of mining plan is furnished for the period of 2021-22 to 2025-26. Therefore status of execution of supplementary lease deed in light of section 8A of MM(D&R) Amendment Act 2015 should be furnished.
20. In geology chapter, the mean grade of the iron ore reserve in summary table of reserve and resources is furnished 60.90% Fe. Therefore in year wise tentative excavation, mineral reject generated during mining operation should be proposed for blending with high grade ore to achieved optimum grade in light of conservation of mineral.
21. The year wise development plan and sections are not matched each other. The RL and lateral extension of the benches in the development plan and in section are differed. It should be re-checked and corrected. Calculation of insitu excavation of ROM and waste are to be revised accordingly after the correction of development plan and sections.
22. Methodology of common boundary working has not been described in text. Modalities of work of common boundary, a common boundary development plan and sections year wise of both the lease and proposed insitu excavation from common boundary have not been furnished separately. Statutory clearance obtained from concern authority has also been not described in text.
23. In conceptual mining plan, cumulative waste generation and protective measures should be furnished properly. In pursuant to the order dated 14.01.2020 passed by MOM, GOI, 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 "re-grassing in mining area after closure of mines". Accordingly it should be discussed during conceptual period

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

24. Details proposed retaining wall, garland drain, settling tank etc. to be given year wise with their location. Location of sub-grade storage along with year to year development of the SG dumps to be given.
25. The extent/location of the proposed dumps to be given also mentioned whether within UPL or not. Also give the details of the existing dumps (top soil, waste dump, mineral reject dump) within the lease area in tabulated form comprising dump number, designed capacity, present quantity, remaining quantity, bottom RL and top RL.
26. The proposed location of mineral reject should be furnished with terraces to minimize the land degradation. The details of mineral reject dumps and their analysis report should be submitted and discussed for their future use on the basis of their physical and chemical properties.

#### **PROGRESSIVE MINE CLOSURE PLAN:**

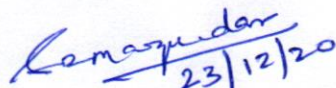
27. Page-67, Para-8.1, the baseline information should be described properly incorporating buffer zone of the lease area.
28. The existing and proposed land use pattern furnished at page no. 70, 78, 83 and as mentioned in introduction chapter are not matched to each other. It should be rechecked and corrected.
29. Updated air, water, noise, ground vibration and soil data with analysis from laboratory done at specified periodicity to be enclosed. Monitoring station of air, noise and water should be described in text and their locations furnished in tabular form. Mitigation measures of impacts associated with mining i.e. mainly related to air, water, noise, vibration, land, aesthetics etc. are not given properly. The same to be elaborated.
30. Year wise plantation covering number of saplings to be planted, location and area covered may be furnished. Matured area of backfilling and dump slope should be stabilized with plantation.

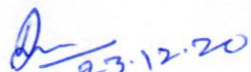
#### **FEASIBILITY REPORT:**

31. The content of feasibility/pre-feasibility report and analysis of economic viability of the project is not described in detailed as per rule 16 and Part-V of MEMC Rule 2015. The economic viability of the project should be supported with NPV, IRR, Payback period by cash flow chart with cost involved in environmental and others protective measures and clearances, operational cost, administrative cost, infrastructure, royalty, NMET, DMF, closure cost etc.

## PLATES:

32. All the plan and sections should be signed with date by certified surveyor, qualified person, mines manager and mining geologist. The plans and sections submitted bear the certificate that --the plans and sections are prepared based on the lease map authenticated by the state government.
33. All plans and sections shall show a scale of the plan at least twenty five centimeters long and suitably subdivided. All plans & sections prepared shall follow the sign conventions mentioned under MMR 1961.
34. The Northing (N) and Easting (E) along the grid values of the grid line have not been mentioned. Need to do necessary corrections in all plans and sections.
35. Wind direction may show through wind rose diagram in key plan and environmental plan. Approach road to the ML to be shown.
36. Existing and proposed bench RL to be mentioned in the all plans and sections. The UPL should be shown in red color in all relevant plans and sections. Magnetic Meridian with declination and date of observation of should be given on all relevant plans. Approach road to the ML to be shown.
37. The CCOM circular no.2/2010 and its addendum should be implemented. The lease area as furnished in DGPS plan is not matched with lease plan. It may be clarified.
38. The plan of five years development, dumps and quarries with lease boundary should be submitted in form of soft copy in KML and KMZ format.
39. **Key Plan:** 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.
40. **Surface Plan:** Few pillars may be correlated with some permanent ground features giving distance and direction. Different land use may be shown with color codes. Virgin area is to be shown by contours and spot RL in surface plan. Forest & Non forest area, Surface right acquired area etc. should be marked clearly. All the mineral reject dumps, mineral stacks, OB dumps should clearly notified with nos. and their RL.
41. **Geological Plan & Section:** Data related to strike, dip, dip-direction etc. shown on the geological plan clearly. In the Geological Plan UNFC boundaries of G1, G2 area are to be demarcated as per MEMC Rules 2015. The Proposed bore holes with their depth should be marked in sections. In geological sections UNFC codes are not correctly furnished as per MEMC Rules 2015. Some of the indexes are missing; it should be re-checked and corrected.
42. **Development plan & Section:** The development plan and sections are not matched each other. The RL of the benches are also not matched with plan and sections. Existing and proposed RL of benches/dumps should be mention clearly in development section. Retaining wall and garland should be marked clearly year wise with color codes. UPL should be shown in red color. Common boundary development plan and section are to be furnished separately.
43. **Environment plan:** The Environment Plan as prepared should be satisfy the provision as laid down under rule 32(5) (b) of MCDR2017. The drainage pattern of the lease area is to be shown on the plan. Contours should be shown in core zone.
44. **Conceptual plan:** Conceptual plan and section may be prepared considering mineralization as revealed from the borehole logs. Direction of run off from the area based on surface contours may be shown on the plan and the sections.

  
23/12/20  
(Sudip Ranjan Mazumdar)  
Senior Mining Geologist

  
23.12.20  
(Dayanand Upadhyay)  
Senior Asst. Controller of Mines