



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/06-ORI/BHU/2019-20

Date: 13.09.2019

सेवामे

✓ The Managing Director & Nominated Owner,  
M/s Odisha Mining Corporation Ltd  
OMC House, Bhubaneswar -751001

विषय: Approval of modification of Mining Plan of Rantha Iron Ore Mine along with Progressive Mine Closure Plan (PMCP), over an area of 268.84 ha (out of 408.8731 ha) in Sundargarh district of Odisha State, submitted by M/s Odisha Mining Corporation Ltd under Rule 17 of MCDR, 2017.

- संदर्भ: - i) Your letter No. 12832/OMC/PMC/19 dated 09.08.2019 received on 19.08.2019.  
ii) This office letter of even no. dated 19.08.2019.  
iii) This office letter of even no. dated 19.08.2019 addressed to the Director of Mines, Govt. of Odisha, copy endorsed to you.


महोदय,

This has reference to the letter cited above on the subject. The draft modification of Mining Plan along with Progressive Mine Closure Plan (PMCP) has been examined in this office based on site inspection carried out on 29.08.2019 by Shri Dayanand Upadhyay, Sr. Assistant 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 1 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 or JPG format in resolution of 100x100 pixels on same CD )** with financial assurance under Rule 27 of MCDR 2017 of the Modification 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 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.

Yours faithfully,

  
(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 on Modification of approved Mining Plan including PMCP in respect of Rantha Iron Ore Mine, Area 268.84 ha. of M/s Odish Mining Corporation Ltd. in Sundargarh district of Odisha State.**

**GENERAL:**

- I. On cover page location of mines like village, tehsil etc should be furnished. The period of lease on cover page and in introduction chapter should be revised in light of letter no. III(B)SM-25/2012/1203/SM, dated 09.02.2016 issued by Govt. of Odisha, Steel & Mines Department.
- II. Introduction chapter should be described with current status of lease, acceptance of part surrender area by State Govt. alongwith documentary evidences marked with annexure. Page-5, registration number has not been furnished.
- III. In page 11, para (b), description of public road passing through the lease area should be furnished.
- IV. Page-13, Para-3.1, lapsing of earlier proposal has not been synchronized with current proposal. It should be re-checked and corrected.
- V. Page-17, para-3.4, 3.5 & 3.6 have not been dealt clearly with date of discontinuance of mining operation, suspension of mining operation and reason of modification with reference to precise area map and letter from State Govt. letter.
- VI. Sequence of para and its numbering should be referred as per IBM Manual appraisal MP 2014. All the headings as mentioned in the IBM Manual appraisal MP 2014 should be furnished in all chapters in the text.
- VII. All the annexure to be properly indexed/ numbered/ paged and signed by qualified person. All the certificates should bear dated signature.

**GEOLOGY:**

- I. Page 20, Para (c), the local stratigraphic succession should be described. Geology of the lease area such as shape and size of the mineral/ore deposit, various litho-units indicating structural features etc. to be given and shown in geological and section.
- II. Page 22, para (ii), the details of already drilled bore holes indicating drilling type (Core/RC/DTH), Coordinates, Bore Hole numbers, Borehole diameter, spacing, inclination, collar RL, bore hole closing depth etc. should be given in tabulated format.
- III. It has been observed that some of the bore hole logs are missing and not enclosed in annexure. Borehole logs of all the previous drilled boreholes signed by Geologist/Mining Engineer should be enclosed with document as annexure.
- IV. In page 25, 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 alongwith annexure.
- V. Page-27, Para-(i), the proposal for drilling under future exploration program should be furnished in tabular format indicating year of drilling, proposed borehole numbers, number of boreholes, section line, proposed borehole coordinates, proposed closing depth, type of drilling (Core Drilling), inclination etc.
- VI. The proposed bore holes should be maintained spacing of 100X100m interval following the proper grid so that complete lease area covered under G1 level of exploration. The year wise proposal for drilling to be shown in different contrasting color in both Geological Plan and Geological sections. The existing bore holes not clearly marked in geological section.
- VII. Page-27, Para-(j), the total number of boreholes considered for reserve estimation should be furnished.
- VIII. Page-27, the details of area explored under G1/G2 as furnished under tabular form are not marked in geological plan. The Geological boundaries of exploration limit i.e. G1/G2/G3 etc. should be marked as per Minerals Evidence of Mineral Contents Rules 2015. Accordingly, the reserve/resource estimation calculation, geological plan/UNFC plan and Sections need to be revised.

- IX. Page no. 29, the method of reserve estimation may be further elaborated and justified with supporting documents w.r.t (1) recovery factor (2) Bulk density and (3) Length of influence considered in reserve and resource estimation. Necessary supporting documents to be furnished with respect to bulk density and recovery factor considered for iron ore.
- X. The lithology shown in the borehole log should match with the lithology shown in geological plan and sections. Different type of ores encountered in lease area has not been furnished correctly.
- XI. Page 31-37, the estimation of reserve/resources is not as per the provision of MEMC Rules, 2015. The UNFC codes in calculation table and in geological section not depicted. Section line X10-Y10 and X11-Y11 are not drawn boundary to boundary. Estimation of OB/waste has not been furnished.
- XII. Mineral/ ore blocked dues to benches, UPL, barriers, pillars, road, railway, river, nala, reservoir, electric line and other statutory barriers etc, under forest, sanctuaries and non-forest etc. to be given separately.
- XIII. Page 38-39, proper justification of UNFC as per the provision of MEMC Rules, 2015 has to be furnished.

#### **MINING:**

- I. Page-40, in para existing method of mining, earlier mining operation has been described with manual method without drilling and blasting while in other para drilling and blasting has been mentioned. It should be re-checked and corrected.
- II. The five years period of proposed excavation has been considered from 2019-20 to 2023-24 while the lapsing period of 2018-19 has not taken in five year blocks. It may be considered and modified the document accordingly.
- III. Page-41, details of existing dumps have not been bifurcated with waste dumps and sub grade dumps. All dumps should be specified with their location. All the sub grade dumps should be specified with their quantity and grade and certified by surveyor.
- IV. Page 45, the sub grade ore should be replaced with mineral reject. The average grade of saleable and sub grade ore and bulk density considered should be furnished.
- V. Page-46, Para-(d), in salient features of proposed method of working top and bottom RL of benches. Gradient of haul road, justification of site selection and direction of advance should be furnished.
- VI. Page-48, Mode of transport is not described properly. A belt conveyor as shown in the plan is not described in text.
- VII. It has been observed from bore holes data that there is huge quantity of insitu low grade ore. Therefore to the maximum utilization of low grade ore and conservation of mineral prospects blending proposal with high grade and other means of beneficiation proposal should be furnished.
- VIII. Conceptual mining plan, cumulative waste generation and top soil generation and protective measures should be furnished properly. Restoration of safety zone, dead dump and slope of the dump may describe properly.

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

- I. The bulk density of mineral reject and percentage of recovery of saleable/usable ore with ROM to be furnished with documentary evidence.
- II. The old dumps in the lease area are lying in the mineralized zone and under ultimate pit limit. Therefore re-handling proposal of the old dumps should be addressed.
- III. The nature and quantity of top soil and mineral reject to be described along description of with overburden / waste. The information on top soil and mineral rejects to be provided in following format.

Year	Top Soil (cum)		Overburden		Mineral Rejects	
	Reuse/spreading	Storage	Backfilling	Storage	Blending	Beneficiation

- IV. It should be ensured that the area proposed dumping should be proved non mineralised. Therefore before dumping the exploration proposal should be furnished in proposed dumping area in 2019-20.
- V. 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.
- VI. Details Existing and proposed retaining wall, garland drain, settling tank etc. to be given yearwise with their location. Location of sub-grade storage along with year to year development of the SG dumps to be given.

**PROGRESSIVE MINE CLOSURE PLAN:**

- I. Page-77, Para-8.1, describe a brief notes on environment base line information on the basis of EIA and EMP submitted to MOEF.
- II. Page-82-85, monitoring station of air noise and water should be described in text and their locations furnished in tabular form.
- III. Page-86, socio-economics condition of the area should be described with total population, literacy percentage male female ratio etc.
- IV. Page-88, top soil management has not described with their location, protection measures alongwith their future utilization.
- V. Page-89, Para-8.3.6, in summary of yearwise proposal, dump management to be furnished with yearwise nos. of plantation along dump slope
- VI. Updated air, water, noise, ground vibration and soil data with analysis from laboratory done at specified periodicity to be enclosed.
- VII. 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.
- VIII. Year wise plantation covering number of saplings to be planted, location and area covered may be furnished.
- IX. Page-98, Para-8.6, the additional area about 4.0 ha falls under old quarries and mines road are not considered in FA calculation. Therefore amount of financial assurance should be re-calculated considering the balance area under old quarries and mines road as per rule 27(1) of MCDR-2017 and submitted accordingly.

**PLATES (General):**

- I. All plans and sections should be signed with date by certified Surveyor, Qualified Person, Mine Manager and Mining Geologist.
- II. 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.
- III. Wind direction may show through wind rose diagram in key plan and environmental plan. Approach road to the ML to be shown.
- IV. Existing and proposed bench RL to be mentioned in the all plans and sections. The UPL should be shown in red colour in all relevant plans and sections. Magnetic Meridian and date of observation of should be given on all relevant plans. Approach road to the ML to be shown.
- V. At some places the colour codes as furnished in plans are not matched with index and some of the index is missing.

**Surface Plan:** Few pillars may be correlated with some permanent ground features giving distance and direction. Different land use may be shown with colour codes. Virgin area to be shown by contours and spot RL in surface plan. Forest & Non forest area, Surface right acquired area etc. should be marked clearly.

**Geological Plan & Section:** Data related to strike, dip, dip-direction etc. shown clearly. In the Geological Plan UNFC boundaries, explored area, unexplored area, forest area, non-forest area, forest diverted area, drilled boreholes and year wise proposed boreholes in relevant colors to be shown. In sections UNFC codes have not been furnished as per Minerals Evidence of Mineral Contents Rules 2015. Profile of the geological sections is not matching with plan. Different types of ore encountered in bore holes are not furnished as per bore holes logs. Complete bore hole logs have not been submitted and some of the bore holes data are missing. Some of the bore holes are missing and existing benches are not clearly marked. Proposed bore holes should be marked in geological sections.

**Development plan & Section:** The proposed mRL of the bench have not shown clearly or not visible. As discussed during the filed visit, the profiles of development/geological sections are not matching with the plans at places. Verify and rectify. Along top soil dump retaining wall to be furnished. Complete retaining wall and garland drain along sub grade dump and waste dump have not been furnished.

**Environment plan:**

- I. The Environment Plan as prepared should be satisfy the provision as laid down rule 32(5) (b) of MCDR2017.
- II. The proposed and existing environment protective measures to be shown in environment plan. The drainage pattern of the lease area also to be shown on the plan.
- III. Contours should be shown in core zone.

**Conceptual plan:** Conceptual plan 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.