



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/21-ORI/BHU/2019-20

Date: 22.10.2019

सेवामे

✓ Shri Venkatesan Thyagarajan, Nominated Owner,
M/s OCL India Ltd,
At/Po- Rajgangpur, Dsit- Sundargarh,
Odisha-770017

विषय: Approval of Review of Mining Plan of Lanjiberna Lst & Dol Mine along with Progressive Mine Closure Plan (PMCP), over an area of 873.057 ha in Sundargarh district of Odisha State, submitted by M/s OCL India Ltd under Rule 17 of MCR, 2016.

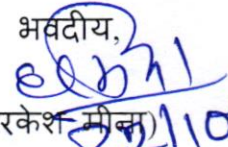
- संदर्भ: - i) Your letter No. Nil dated 30.09.2019.
ii) This office letter of even no. dated 01.10.2019.
iii) This office letter of even no. dated 01.10.2019 addressed to Director of Mines, Government of Odisha copy endorsed to you.

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 based on site inspection carried out on 14.10.2019 by Shri Kewal Krishan, Regional 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 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 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,

(हरकेश मिश्रा)
22/10/19
क्षेत्रीय खान नियंत्रक

Copy for kind information and further necessary action to Shri P S Acharya & Shri S M Patra, K-8/625, Kalinga Nagar, Ghatikia, Bhubaneswar- Odisha 751029.



(हरकेश मीना)

क्षेत्रीय खान नियंत्रक

Scrutiny comment on Modification of Review of Mining Plan including PMCP in respect of Lanjiberna limestone & Dolomite Mine of M/s OCL India limited over an area of 873.057 Ha

GENERAL:

1. In introduction chapter brief history of mines in chronicle order including lease transfer and surrender of part area of the mines, forest clearance, consent to operate, surface right etc should be described with documentary evidence with marked in annexure.
2. Page-5, in TOR of increase production, 7.42 MTPA furnished is reject which is waste quantity. It may be corrected.
3. Page no-11, Para- 3.3, details of mineral reserves/resources established in the earlier approved document as per UNFC are to be furnished.
4. Sequence of paragraph, formats and its numbering as per IBM Manual Appraisal MP 2014 has not been covered in text. All the headings, formats as mentioned in the IBM Manual Appraisal MP 2014 should be furnished in all chapters in the text.
5. The updated list of all the directors to be enclosed and same to be given in the text. The latest copy of board resolution about nominated owner to be enclosed.
6. The CCOM circular no.2/2010 and its addendum should be implemented.
7. All the annexure to be properly numbered/paged and relevant annexure to be signed by qualified person etc. It is observed that many of the annexures are not legible. A legible copy of same to be enclosed.

GEOLOGY AND EXPLORATION:

8. Page-23, Para-1.0, under heading Geology and exploration, proper heading is to be given for, topography, drainage, vegetation, climate, rainfall and then their description is to be given.
9. Page-28, Para-(e), under heading detail of prospecting/exploration already carried out to be mentioned in the paragraph that the details of exploration data has been already considered/furnished in the earlier approved document.
10. Page-29, Para(e)(ii), the details of exploration carried since inception of mining operation to be given in tabulated form i.e. year, BH number, Location (Coordinate), nature of BH (Core/DTH), Depth (max-Min), mineralized/non-mineralized, Inclination etc. The relevant forms for intimation of borehole and borehole logs to be submitted as annexures.
11. Page-36, Para-(i), under proposed exploration programme for the period 2020-21 to 2024-25, angle of the boreholes to be drilled are to be furnished on the table. Similarly proposed depth is mentioned on the table is twice. Need clarification/correction.
12. The complete lease area should be proposed to cover under exploration under G1 level upto end of mineralization as per provision of rule 12(4) of MCDR2017. The same are to be incorporated in the geological plan and section.
13. The justification for area considered for G1/G2/G3 in cross section etc. has not been furnished as per the provision of MEMC Rules'2015. Necessary corrections to be done at all relevant places of the document and resource estimation.
14. Page no-48, reassessment of reserves/resources is to be discussed. It is mentioned in the paragraph that based on the exploitation of limestone and associated rocks an attempt has been made by the lessee to reassess the resources/reserves in the lease area as on 1.9.2019. The reassessment of resources/reserves is already done in the lease area as on 1.4.2019, after that no exploration has been carried out, hence the reassessment done again in the submitted document is not justified. Need correction at all the relevant places in the document.

15. Page no.- 55 & 60, in cross section-wise summary of resources, level of exploration i.e G1/G2/G3/G4 is to be given also within brackets. In table, grade of mineral reject should be furnished with its range. Abbreviations given in the table are to be elaborated. Need correction.
16. Entire heading/description made under Geology and exploration chapter, from page no 50 to 70 are to be rearranged as per the chronological order furnished in the IBM manual 2014, for preparation of mining plan. Need correction.

MINING:

17. Page-79, existing method of mining should be described with production capacity, machineries used, height of existing benches etc. The dimension of existing pit/block should furnished in following table.

| Name of pit/Block | Location | Length | Breadth | Depth | Top mRL | Bottom mRL | No. of benches in ore/No. of benches in OB | Pit slope | Area backfilled | Area reclaimed & rehabilitated |
|-------------------|----------|--------|---------|-------|---------|------------|--|-----------|-----------------|--------------------------------|
| | | | | | | | | | | |

18. Page-83, in table of tentative excavation proposal, in top soil column the soil mixed IB has been furnished while in text it is mentioned that there is no top soil generation during proposed excavation. It should be re-checked and corrected.
19. Page 96-108, Individual yearwise development proposal should be furnished with bench slope angle, RL of benches, direction of advance etc at the end of each year.
20. It has been observed during inspection that near quarry 1-3 there is inhabitant within 100m periphery. Therefore in this zone surface miners should be proposed for excavation in place of drilling and blasting.
21. The drilling and blasting parameters should be relooked to control generation of oversize boulders, and subsequent secondary blasting etc Drilling and basting should be described with pattern of drilling, spacing and burden, delay used, nos. of row and column and nos. of holes considered in blasting and other precautionary measures taken through controlled blasting technique.
22. The mineral reject generated during mining has been proposed for blending. Therefore the average grade of mineral reject and grade obtained after blending with high grade to make its usable for plant should be furnished in text.
23. It is mentioned that soil mixed IB generated during mining has been partly used for additive therefore its analysis should be furnished and enclosed in annexure. The storage soil mixed IB should be proposed to dump in separate location and not dumped with waste as proposed.
24. The site for storage of oversize boulders for secondary blasting and sorting yard of dolomite should be proposed and to be shown in development plan and other relevant plan.
25. In conceptual mining plan, cumulative waste generation and backfilling 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:

26. It has been observed during inspection that over the mineralized zone new dump has been proposed for waste dumping which is not permissible. It should be ensure that dumping ground should be proved non-mineralized. The old dumps lies within UPL should be proposed to re-handle.
27. The details of all the existing waste dumps temporary and permanent, Mineral reject dumps/stacks to along with their location inside or outside the UPL have not been furnished in tabulated form as below.

| Name of | Block | Location | Length (max) | Breadth (max) in | Area occupied | Grade |
|---------|-------|----------|--------------|------------------|---------------|-------|
| | | | | | | |

| | | | | | | | |
|----------|--|--------|--------|-----|-------------------|------|--|
| the dump | | (Grid) | in mts | mts | (m ²) | (ha) | |
| | | | | | | | |

28. The proposal for dumping may be given in tabulated format as shown below: Further, Build-up of dumps from year to year to be mentioned in text w.r.t. designed capacity of dumps, bottom and top mRL of individual terrace, dump slope, individual terrace height and slope with description of method & manner of disposal of waste should be mentioned. The method of waste dumping should be in retreating manner. The year wise buildup of dump should be described.

| Year | Waste to be dumped (in m3) | Dump No | Location of dumping (coordinates) | Proposed area (m2) | Proposed dumping mRL. | No of terrace proposed. | Individual Terrace height | Slope of the terrace |
|------|----------------------------|---------|-----------------------------------|--------------------|-----------------------|-------------------------|---------------------------|----------------------|
| | | | | | | | | |

29. Existing as well as proposed protective measures like retaining wall, garland drain, check dams etc., should be furnished in tabular format with details of location, length, dimensions etc., a separate table should be given showing the year wise construction of retaining wall, garland drain and settling tank having specific proposal. Details of year wise proposal for construction of retaining wall, garland drain, settling tank etc. to be given with their location.

PROCESSING OF ROM AND MINERAL REJECTS:

30. A material balance chart with a flow sheet or schematic diagram of the processing procedure indicating feed, product, recovery, and its grade at each stage of processing has not been furnished. The arrived percentage of recovery of saleable ore and mineral reject should be justified properly with documentary evidence.

PROGRESSIVE MINE CLOSURE PLAN:

- 31. Page-144, monitoring station of air, noise and water should be described in text and their locations furnished in tabular form.
- 32. Page-146, human settlement and socio-economics condition of the area should be described with total population, literacy percentage male female ratio etc.
- 33. Page-151, Para-8.3.1, The proposal to be implemented for reclamation and rehabilitation of land should furnished as below:

| Year | Item | Area proposed for Backfilling in ha. | Area proposed for reclamation & rehabilitation in ha. | Location | Mode of reclamation & rehabilitation | Nos. of plantation proposed | Garland drain, retaining wall, settling ponds, check dam etc | Remarks |
|------|-------------------------|--------------------------------------|---|----------|--------------------------------------|-----------------------------|--|---------|
| | Pits Dumps Others | | | | | | | |

- 34. Page-157, Para-8.6, The area under different heads of FA table should be properly shown in different hatching with present area and additional area in FA plan. The area covered under check dam, retaining wall and garland drain etc should be specified.
- 35. Year wise plantation covering number of saplings to be planted, location and area covered may be furnished.
- 36. Updated air, water, noise, ground vibration and soil data with analysis from laboratory done at specified periodicity for last one year to be enclosed.
- 37. Under impact on land, cumulative land degradation at present, at the end of proposal period and at the end of conceptual period may be given referring to conceptual mining plan given in scheme of mining.

PLATES:

38. All the plan and sections should be signed with date by certified surveyor, qualified person, mines manager and mining geologist.
39. 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.
40. Wind direction may show through wind rose diagram in key plan and environmental plan. Approach road to the ML to be shown.
41. 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.
42. **Surface Plan:** Updated surface plan to be submitted. 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.
43. **Geological Plan & Section:** From grid 7700E to 14600E all along agriculture land outcrops are to be marked on the plan. Lateritic soil shown in the index but it is not shown in plan. The geo-structural information like strike, dip, dip-direction etc to be shown clearly. Different level of exploration like G1, G2, G3 etc in line with MEMC rule 2015 to be depicted on geological plan and UNFC codes should clearly furnished in sections. The index of Geological features should be same in both Geological Plan and Geological sections. Some of the index is missing in plan and section. The bore holes proposal to be modified in the western part of lease area as per MEMC Rule 2015. All the existing and proposed bore holes should be shown in section and all the section should be matched with bore hole logs. Lease boundary as shown is not in uniform color. In cross section UNFC codes are to be corrected keeping in view of MEMC rule 2015. Projection of the ore body should be based on the bore data and analysis is to be justified properly, accordingly modifications are to done in the plates and in calculation parts in the text of the relevant sections.
44. **Development plan & Section:** The proposed and existing bench mRL to be shown clearly over year wise development plan and sections. Geological information (lithology) to be furnished on development plan and sections. Some of the index is missing in plan and section. Existing and proposed protective measures and plantation should be shown in different colors. Index of safety zone boundary and surface right area should have distinct color.
45. **Reclamation Plan:** Year wise proposal of wase dump, mineral storage, retaining wall and garland drain and afforestation using different colour codes for easy understanding should be furnished.
46. **Environment plan:** The Environment Plan as prepared should be satisfy the provision as laid down rule 32(5) (b) of MCDR2017. Environment Plan, natural drainage systems such as water course, streams, nalla, river, Forest with tree density, waste land, agricultural land, grazing land and surface features of 500 buffer zone should be shown.
47. **Conceptual plan:** Conceptual plan and section should be prepared up to the end of lease period taking into consideration the production of ROM, Disposal of waste, backfilling of voids, reclamation and rehabilitation etc. One longitudinal section may also be submitted.
48. **FA Plan:** Land degradation due to mining activity and processing unit etc. at the end of plan period may be shown separately on this plan with highlighted boundaries and different colour codes for FA calculation.