



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/OTFM/19-ORI/BHU/2017-18

Date: 23.10.2017

To

Shri Prashanta Kumar nayak, Nominated Owner,  
The Industrial Development Corporation of Odisha Ltd,  
IDCOL House, Ashok Nagar,  
Unit-II, Bhubaneswar-751009

Sub: Approval of Modification of Mining Plan of Ampavali Limestone Mine along with Progressive Mine Closure Plan (PMCP), over an area of 280.771 ha in Koraput district of Odisha State, submitted by The Industrial Development Corporation of Odisha Ltd under Rule 17 of MCR, 2016.

Ref: - i) Your letter No. Nil dated 07.10.2017.  
ii) This office letter of even no. dated 11.10.2017.  
iii) This office letter of even no. dated 11.10.2017 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 Modification of Mining Plan along with Progressive Mine Closure Plan (PMCP) has been examined in this office based on site inspection carried out on 14.10.2017 by Shri Ramkishan R, 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 along with Progressive 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 )** with financial assurance under Rule 23 F of MCDR 1988 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 along with Progressive Mine Closure Plan. It may be noted that no extension of time in this regard will be entertained and the Modification of Mining Plan along with Progressive 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 in respect of Modification of Mining Plan of Ampavali Limestone Mine of M/s IDCOL in district Koraput of Odisha**

**Text:**

**GENERAL**

1. It is mentioned in page no 2 that IDCOL with the approval of state government supplying limestone to Toshali Cement Ltd. Proper documents should be annexed in support of it.
2. In the review of earlier approved plan deviation of all proposed individual year wise programmes should be given. Cumulative for 5 years given is not accepted.
3. All annexures & chapters should be properly indexed.
4. List of board of directors and resolution of nominated owner should be furnished.
5. The details regarding the supplementary lease deed execution should be furnished.
6. Authenticated lease map signed by competent authority should be furnished over an area of 280.771 ha.
7. Authenticated lease map enclosed is not legible so enclose the same with detailed land schedule signed by competent authority. DGPS survey carried out by ORASC and authenticated by competent authority should be submitted. The DGPS coordinates of the lease area should be furnished.
8. Photographs of lease area features shall be annexed with activities carried out.
9. Sequence of para as per IBM Manual appraisal MP 2014 has not been covered in text. All the headings and tables as mentioned in the IBM Manual appraisal MP 2014 should be furnished in all chapters in the text.
10. Summary of proposal at a glance may be furnished before "Introduction" chapter covering Exploration, Excavation, Area Utilization, Stacking, Environmental Protective Measures etc."
11. The extent and nature of surface right being held by the Lessee to carry out various mining activities be indicated with documentary evidence.
12. "Mineral Conservation and Development Rules 1988" to be replaced with "Mineral Conservation and Development Rules 2017" in the content of different parts of the text. The reference quoted at MCDR 1988 may be replaced with relevant rules under MCDR, 2017.
13. The qualification and experience of QPs should be enclosed as per the rule 15 of MCR, 2016.

## **GEOLOGY AND RESERVE**

- 14.** The reserves and resources were estimated considering the depth below proved depth as G2, which is not accepted. Lateral influence was also taken into account which is not as per the provisions of MEMC, 2015 rules. Reserves / resources should be re estimated as per the provisions of MEMC, 2015 rules and as per field discussions. Proved depth should be considered up to the end of bore hole depth only.
- 15.** In page no 23 threshold value mentioned as 30%cao whereas during final estimation of reserves and resources the sub grade material mentioned as +35%-42%. Clarify the same. In page no 28 the reserves and resources mentioned are 42% cao , clarify whether sub grade limestone is included in it or not.
- 16.** Recovery factor mentioned as 80% from mineralised zone should be justified. And also percentage of generation of sub grade and saleable ore should also be justified. Estimation of saleable limestone and sub grade limestone under reserves and resources should be properly dealt with detailed calculations. recovery factors are different as compared to previous approved mining plan so justify the same.
- 17.** The geological section lines may be re-oriented in the mineralised area as per the structural information (attitude of beds) available in geological plan. Sections should only drawn perpendicular to strike of the deposit.
- 18.** The details like potentially mineralized area for limestone and its extent (coordinate in WGS 84), potentially mineralized area explored (in different land types), remaining area, proposal of exploration to explore remaining potentially mineralized area to be given with justification of adequacy in accordance with MEMC 2015 rules.
- 19.** Reporting of Mineral Resources in the format prescribed in Part IV-A of Minerals (Evidence of Mineral Contents) Rules, 2015 to be submitted. Recovery factor while estimating the Limestone reserves/ resources from mineralised zone should be dealt with. Reserves and resources should be estimated up to the proven depth only.
- 20.** So mineralised and non-mineralised area should be divided based on the current level of exploration only and area should be furnished with justification of level of exploration. The explored areas with mineralisation , non-mineralisation and unexplored areas should be categorised in different land

types which should also be reflected in relevant plan and sections. Final reserves and resources should be consolidated in only table as per UNFC.

21. The UNFC boundaries as per the present status of exploration under MEMC rules 2015 may be demarcated over the Geological Plan and Sections.
22. The depth of the proposed boreholes should be adequate enough to justify the lateral and depth extension of the ore zone along and across the section lines up to the end of mineralization considering the geology and nature of ore deposit.
23. In the Geological sections, the UPL and benches should be drawn properly. The UNFC boundary/code may be shown properly. A summary of exploration conducted in the lease area as per UNFC norms should be furnished in the following table.

<b>Total Lease area:</b>						
Item of information	Lease area explored as per UNFC norms (in Ha) as on dt.					Remarks/Comments including reasons for not carrying out the exploration as per UNFC norms.
	<b>Total Lease area = A+B+C+D+E</b>					
	G1 Level	G2 Level	G3 Level	Explored and found non-mineralized with level of exploration (Remarks)	Unexplored lease area	
	A	B	C	D	E	
Area as per level of exploration						
No. of BH Drilled						
No. of BH considered for Resource Estimation.						
Meterage Drilled						
Grid Interval						
Scale of Mapping						
<b>Reserve estimated after above exploration as on dated :</b>						
<b>Remaining Resource after above exploration as on dated:</b>						
<b>Total Reserver/Resource after above exploration as on dated:</b>						

24. Recovery and bulk density mentioned of Limestone may be properly justified with documentary evidence.

25. The proposal for future exploration program should be furnished in tabular format so that the entire mining lease area should be explored under G1/G2 level of exploration indicating proposed borehole number, section line, coordinates, proposed depth, inclination, year of drilling etc. accordingly the proposal of future exploration programme may be modified.
26. The type of deposit of Limestone as per MEMC 2015 rules may be clearly defined like bedded, regular, irregular deposit etc. the strike and dip parameters should be mentioned in the text and relevant plans and sections should be drawn accordingly.
27. As per guideline of "IBM manual on appraisal of Mining Plan 2014" at least 10% of total samples to be analyzed in accordance to BIS and reports from NABL accredited/Government Laboratory. Accordingly, the proposal should be given under future exploration programme.

#### **MINING**

28. Production table shall be furnished in the tabular form as per IBM manual of appraisal of mining plan 2014.
29. Stripping ratio may be furnished in t/cu.m format.
30. Grid location of proposed working areas to be given for the proposed period. Quantum of production and development may be described year wise with no. of benches, mRL, depth of excavation, direction of advancement, location and cross-section area considered. The mRL at the end of each scheme period should be mentioned in a tabular format for every pit area proposed with dimensions and no of benches with height and width and grid location.
31. The procedure of generated ROM should be dealt in detail like their dispatch and stacking. Protective measures around stacked materials should be furnished. Present quantity of stacked material with its location and stacking parameters should also be furnished for lumps and fines.
32. Geological Section wise of proposed ROM excavation quantity for every year should be provided. Sections may be equally spaced so that the entire area proposed for excavation may cover.
33. The existing and proposed machineries should be furnished in a tabular form.

#### **HANDLING OF MINERALS REJECT/ SUB-GRADE AND DISPOSAL OF WASTE**

34. The tables as per IBM Manual appraisal MP 2014 should be furnished.
35. Information on mineralisation or non-mineralisation proved in the underlying area of all the proposed and existing dumps should be furnished.
36. Present and further, Build-up of dumps from year to year to be mentioned in text w.r.t. designed capacity of dumps, present accumulated quantities, bottom

and top mRL of individual terrace, dump slope, individual terrace height, grid location and slope with description of method & manner of disposal of waste should be mentioned. Nature of dumps whether temporary or permanent should also be mentioned.

37. Adequate provision for Garland drain, retaining wall and other protective measures as required should be given keeping in view of the proposed dumps to prevent wash-off of material. The given proposals are may not be sufficient so review the same.
38. The existing and proposed stacks of mineral and waste over mineralised or non mineralised area to be specified. If it is on mineralised area undertaking should be given to re handle the same.

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

39. Land use pattern of additional land requirement during scheme period may be provided year wise.
40. During field inspection it was observed that there no protective measures around existing sub grade dump, so proposal should be given for the same.

#### **OTHERS**

41. Contractual and departmental manpower may be specified. Existing and future employment may be elaborated like mine manager, mining engineer, geologist, skilled and semi- skilled etc.,
42. An organizational chart has to be provided for risk assessment study to whom communication to be made in case of any accident.

#### **FINANCIAL ASSURANCE**

43. The area calculated for FA needs to be reviewed once and DWG file needs to be submitted.

#### **FEASIBILITY STUDY REPORT**

44. Feasibility study report should be enclosed considering the Capital cost, Cash-flow forecast, Investment cost, Inflation forecast, Operating cost, Sensitivity studies, RR, IRR, NPV for the project life.

#### **Plates:-**

##### **General:**

45. The extent of lease area of the mine should be mentioned in the all plates. All plans and sections should be signed with date by certified Surveyor, Qualified Person, Mine Manager, Mining Engineer and Mining Geologist as per provisions of MCDR, 2017 and MMR, 1961. All plans & sections prepared should follow the conventions mentioned under MMR 1961.

46. All plans and sections should show a scale a scale of the plan at least twenty five centimeters long and suitably subdivided. True and magnetic north should be depicted in all plans with date and variation.
47. The plans and sections submitted should bear the certificate that -the plans and sections are prepared based on the lease map authenticated by the state government.
48. Date of survey should be given on all plans and sections and signature should bear date of signature.

**Surface Plan:**

49. Surface right area should be shown on surface plan. Power transmission lines to be shown in the plan. All boundary pillars coordinate in UTM, Latitude and longitude to be shown in tabulated form on surface plan. Few pillars may be correlated with some permanent ground feature giving distance and direction.
50. Surface plan needs to be updated and all the drilled BH to be shown. Year wise proposed boreholes in relevant colors.
51. Safety zone should be marked in surface plan and all relevant plans and sections.

**Geological Plan & Section:**

52. In the Geological Plan and sections UNFC boundaries, UNFC codes, explored area, unexplored area, mineralised area, non-mineralised area should be divided in to different land type area, drilled boreholes till date and year wise proposed boreholes in relevant colors and legends to be shown. The proposed boreholes to be plotted in dotted lines in Geological sections along with Collar Id, RL and proposed closing depth at the bottom of the borehole.
53. A separate plan called UNFC plan showing the Lease area, Forest-Non-forest and Diverted Forest boundary, UNFC boundaries, Surface right area, explored area, unexplored area, mineralized and non-mineralized area, UPL, already drilled boreholes in black color and year wise proposed boreholes in relevant colors to be submitted.
54. All the already drilled boreholes to be shown in all the relevant plans (Geological Plan, Surface plan, UNFC plan etc) and Geological sections. The year wise proposal for drilling to be shown in different contrasting color in both plans (Geological Plan, Surface plan, UNFC plan etc) and Geological sections. The year wise color of the boreholes proposed in Geological plan should match with the plotted proposed boreholes in Geological sections.

55. Data related to strike, dip, dip-direction etc. shown on the geological plans are inadequate. Some more data may be shown to understand the geology of the area.

56. The index of the Geological plan and sections to be revised indicating the index for year wise drilling proposal, mineralized and non-mineralized boundary.

**Development plan and Sections**

57. Each year development proposal for different blocks should be shown separately in different color. Composite development plan and section to be submitted.

58. The sections may be equally spaced according to the excavation area so that the sections will cover the entire excavation area proposed.

**Conceptual plan**

59. All the dumps at the conceptual stage should be clearly marked with legend / name on the conceptual plan & sections.

**Key plan**

60. Approach road to the lease area should be shown.

61. Wind rose diagram should be shown

**Environment plan**

62. 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.

63. The Environment Plan as prepared should be satisfy the provision as laid down rule 32(5) (b) of MCDR, 2017.

64. The particulars with regard to items (ii), (iv) and (v) of Rule 32(5) (b) should be applicable only up to sixty meters beyond the boundary of lease area. The same should be demarcated in Environment plan.

**Reclamation plan**

65. Year wise proposal of dumping, stacks, afforestation, different proposals under PMCP like drains, retaining walls etc. using different colour codes for easy understanding may be shown.

**ENCLOSURE:**

66. Proper indexing of annexures needs to be done.

*A. Aliy*