



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/12-ORI/BHU/2019-20

Date: 25.09.2019

सेवामे

✓ Shri Neeraj Akhoury, Nominated Owner,  
Dunguri Limestone Mine, M/s ACC Ltd,  
Po- D.L.Q, Colony Campus,  
Dist- Bargarh, Odisha-768052

विषय: Approval of Review of Mining Plan of Dunguri Limestone Mine along with Progressive Mine Closure Plan (PMCP), over an area of 428.096 ha in Bargarh district of Odisha State, submitted by M/s ACC Ltd under Rule 17 of MCR, 2016.

- संदर्भ: - i) Your letter No. Geomining/Bargarh/001 dated 10.09.2019.  
ii) This office letter of even no. dated 10.09.2019.  
iii) This office letter of even no. dated 10.09.2019 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 17.09.2019 by Shri Ramkishan R, 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 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  
8/9/19  
(हरकेश जीना)  
क्षेत्रीय खान नियंत्रक

Copy for kind information and further necessary action to Shri Jagannath Behera & Shri Sujoy Kundu, Dunguri Limestone Mine, M/s ACC Ltd, Po- D.L.Q, Colony Campus, Dist- Bargarh, Odisha-768052.

(हरकेश मीना)

क्षेत्रीय खान नियंत्रक

**Scrutiny comment on Review of Mining Plan including PMCP in respect of Dungri Limestone Quarry Mine of M/s Bargarh cement Works of ACC limited over an area of 428.906 Ha in Bargarh District, Odisha**

**GENERAL:**

1. 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.
2. In the cover page, the date of execution of lease and validity of the lease period may be rechecked and corrected. The Qualification of Qualified Person should also be mentioned.
3. All the categories/grade of Ore above cutoff grade should be termed as "Ore" and between threshold value and cutoff grade as "Mineral Reject". Necessary corrections to be done at all places in text, table and plates.
4. All the chapters should start from new page.
5. In the introduction chapter the sequence of execution and transfer of lease may be described in detail along with necessary annexures.
6. In page 5, the rule under which the review of mining plan has been submitted should be rechecked and corrected. Further, the term modification should be removed. Need to do necessary correction.
7. In Para 1(a), the details of nominated owner have not been furnished. In Para 1 (d), the details of both the qualified persons have not been submitted.
8. Certificates / Undertakings/ Consents should be furnished as per the format provide din IBM Manual for appraisal of MP 2014. The certificates should be the part of text. The CCOM Circular No-2/2010 should be implemented and complied with when an authorized agency is approved by the State Government and accordingly the boundary pillars should be furnished in table 1 over the lease area of 428.096 ha.
9. The information furnished under Para 3 should be in Para 3(1). In Para 3.1, the date of approved mining plan/review of mining plan should be given in tabulated format.

Sl. No	Mining Plan / Review of Mining Plan etc.	Submitted Under (Rule Reference)	Approval Letter No. & Date	Period	Valid up to

10. In Para 3.3, review of earlier approved proposal in respect of exploration, excavation, reclamation etc. should be furnished only for the period 2018-19. ROM production should include mineral reject part of ROM. Reason for deviation should be justified. The proposal figures of ROM production and achievement should be rechecked and corrected.
11. In Para 3.6, the information furnished should be omitted.

**PART-A: (1). GEOLOGY AND EXPLORATION:**

12. In par a1 (a), the topography along with maximum and minimum RL, drainage pattern, vegetation, climate and rainfall data of the mining lease area should only be furnished. In Para 1(b), the reference of established regional stratigraphy should be furnished and the younging direction of the lithounits should be shown in arrow mark. In Para 1(c), the younging direction of the local stratigraphy has not been shown. The analysis furnished has not been supported with NABL chemical analysis reports. In Para 1.e (iii), the summary of total samples collected and analyzed along with justification for 10% of total samples analyzed in accordance to BIS and reports from NABL accredited/other government laboratory have not been furnished.
13. The lease area explored under different category of UNFC norms as shown in table in page no 53 is incorrect and should be recalculated as per the provision of Part II point no.4 and part III of Minerals (Evidence of Mineral Contents) Rules, 2015 (MEMC Rules, 21015). The justification for area considered for G1/G2/G3 etc. have 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. In Para 1 (i), future exploration proposal should be modified to the extent that area that falls under G2 category after complying the point no.12, should be converted to G1 level of exploration. The depth of proposed boreholes should be up to 300 meters or up to discontinuance of ore body, whichever is earlier. Further, few boreholes at pit bottom should be proposed to know the continuity of bottom lithology at depth. In the table under proposed exploration program, a column should be inserted showing the purpose of borehole (for lateral extension or depth ward) conversion of G2 or G3 area to G1. The proposal for exploration should be over the period of two years only i.e. 2020-21 & 2021-22. Necessary changes to be done in exploration proposal.

Year	No of Boreholes	Grid Interval	Total Meterage	No. of Pits, dimensions and volume	No. of Trenches, dimensions and volume
2020-21					
2021-22					

The details of the proposed boreholes should be furnished in the following tabulated format.

Year of drilling	Section No	Proposed BH No	Northing	Easting	Collar RL	Core/RC/DTH	Proposed Depth of BH (in meter)	Inclination	Forest/ Non Forest/ Diverted Forest area	Surface Right/ Non-Surface right area	Surrendered area applied/ retained area

As per MEMC Rules 2015, check analysis of at least 10% of samples may be analyzed from third party NABL accredited/or department of science & technology (DST) / BIS recognized laboratories or government laboratories for assessing the acceptable levels of accuracy. Accordingly, the proposal should be given under future exploration programme.

15. In table no 22, the threshold value should be rechecked and corrected as per latest threshold value of minerals (Gazette Notification dated 25th April, 2018). Lateral influence should be rechecked and corrected considering the provision of Part II point no.4 and part III of Minerals (Evidence of Mineral Contents) Rules, 2015 (MEMC Rules, 2015). Justification of recovery factor has not been furnished. The reference of Bulk density test report has not been mentioned and should be corrected. Necessary corrections to be made at all relevant places.
16. Justification of UNFC codes in tabulated format has not been furnished.
17. Reserves and Resources have to be re-estimated as per the provision of MEMC Rules 2015 after complying the point no 12 and 14. Further, the resource estimation has to be done based on last updated survey. Detail calculation of section wise reserves and resources based on last updated survey and updating the borehole information by cross sectional method for various categories of UNFC have not been furnished showing cross-sectional area, length of influence, volume, bulk density and tonnage has not been furnished. Further, the boreholes whose chemical analysis results and borehole logs are not available should be omitted from plan and section and subsequently from resource estimation. The average grade of reserve and resource under various UNFC categories in table no 35 and 28 have not been furnished. The summary of ore and mineral reject along with grade under various level of UNFC should be furnished.

#### **PART-A: (2). MINING:**

18. Justification for area proposed for mining has not been given with respect to exploration, targeted quantity and grade considering mineral conservation and grade.
19. In page 57, in flow sheet, the material type of minus 10mm size may be described properly instead of clay.
20. In page 59, the justification of equipment should be based on maximum excavation quantity to be handled in five year excavation proposal. Necessary correction in the calculation need to be done.

21. The description of the existing pits/waste dumps/Mineral rejects stacks in the following table to be furnished. Temporary and permanent waste dump details should also be furnished. Their nomenclature should be also reflected in relevant plans and sections.

**Existing Pits:**

Block /Pit	Location (Grid)		Size of Pit (in m)		Surface area covered (in Ha)	Top RL (m)	Bottom RI (m)	No of benches		
			Length	Breadth				Ore	MR	OB
	Northing	Easting								

**Existing Waste Dumps/Mineral reject dumps/stacks:**

Name of the waste dump/ mineral reject dump	Location (Grid)		Top RL (in m)	Bottom RL (in m)	No of terrace	Area Occupied (in Ha)
	Northing	Easting				

22. In Para 2.A (b) (1), the total of in-situ excavation figs have not been furnished in the format specified in IBM appraisal of MP 2014 both in cum and in tones in separate table. In situ excavation of OB/IB/waste, Ore, Mineral reject have not been calculated based on last updated survey. All the calculation from page 63 to 72, should be rechecked and corrected based on updated survey and updated Geological sections after re-estimation of reserves and resources based on MEMC rules 2015.

23. Year wise development and production plan should be furnished in the following tabulated format.

Particular for the year...	
Bench Geometry	Height (in m)
	Width (in m)
	Individual bench slope angle
Quarry Development	Location (Quarry Name)
	Extent of Development (in UTM coordinate)
	Sections considered for development
	Number of benches
	Benches considered for development with RL
	Top RL
	Bottom RL
	Direction of advancement
	Dimension of the quarry at the end of the year including existing benches
	Area occupied (in sq.m)
	Overall quarry slope angle
	Production of Ore (in MT)
	Generation of Mineral rejects ore from quarry (in MT)
	Production of ROM (Ore+Mineral Reject) in MT
Total Generation of waste (in cum)	

24. Justification for yearly ROM production proposal less than the EC quantity have not been furnished.
25. Life of mine should be recalculated based on re-estimated resources as mentioned in point no.16
26. In page 78, in para i, the statement is incorrect and should be corrected with compliance of point no. 12 & 13.

**3. MINE DRAINAGE:**

27. In para 3 (b), the max and min depth of working should be given in following tabulated format.

Name of the Quarry	At the end of plan period (mRL)		At the end of conceptual period (mRL)	
	Top	Bottom	Top	Bottom

#### 4.0 STACKING OF MINERAL REJECT /SUB GRADE MATERIAL AND DISPOSAL OF WASTE

28. The nature/ type of mineral reject and waste material have not been described or classified. Table no 57, may also be submitted converting the figures in tones In Para 4 (a), the reference of external dump is incorrect. Necessary corrections to be done. In par a4 (c0, the waste generation quantity does not match with the waste generated as shown in table no 58. In table 61 (A), maintenance has not been proposed for the period 2022-23 to 2024-25. Necessary corrections to be done.
29. The disposal of waste and mineral reject and soil to be furnished as per table furnished in IBM Manual appraisal MP 2014.
30. 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. Proposal for protective measures have not been submitted around mineral reject dumps and waste dumps.

#### PROCESSING OF ROM AND MINERAL REJECTS:

31. In para 6 (b), consumption of subgrade mineral mentioned should be rechecked and corrected.
32. 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.

#### OTHERS:

33. Information in respect to the existing and proposed manpower right from management level to unskilled labor both on role and contractual has to be mentioned separately in the text.

#### PROGRESSIVE MINE CLOSURE PLAN:

34. The air, water and noise monitoring stations and their frequency of monitoring have not been furnished in tabulated format. All water discharge points from lease area to external should be monitored. Accordingly, monitoring proposal to be submitted.
35. All the paragraphs should be addressed in detail under PMCP chapter as per IBM Manual Appraisal MP 2014. The present land use pattern should be furnished as per the format of FA table of different heads.
36. In Para 8.3.1, the species to be planted has not been mentioned.
37. In FA table the different heads should be kept as per the format specified in IBM manual appraisal 2014. As discussed during field inspection, the area considered as fully reclaimed and rehabilitated under mining should be rechecked and corrected. Further, the area under waste dump sites should not be considered as fully reclaimed and rehabilitated. Therefore, net area considered for FA calculation should be rechecked and corrected and equivalent financial assurance to be submitted. The area under different heads of FA table should be properly shown in different hatching with present area and additional area in FA plan.

#### PLATES (GENERAL):

1. Magnetic Meridian and date of observation should be given on all relevant plans. Date of survey should be given on all plans and sections and signature should bear date of signature. All plans & sections prepared should follow the conventions mentioned under MMR 1961. All plans and sections shall show a scale a scale of the plan at least twenty five centimeters long and suitably subdivided.

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. The index should be kept same in all the plans and sections.

2. All plans and sections to be submitted in UTM grid.
3. **KEY PLAN:** The key plan should incorporate all features as mentioned Rule 32 5 (a) of MCDR 2017. The approach road to the lease area and wind rose diagram has not been shown.
4. With reference to **CCOM Circular No 2/2010**, the geo-referenced mining leases map superimposed on latest high-resolution satellite data has not been submitted.
5. **SURFACE PLAN:** The index of surface right area shown should be distinct from index of safety zone. The Surface Plan should be prepared to satisfy the provision as laid down rule 32 (1) (a) of MCDR'2017. The DGPS surveyed latitude-longitude and UTM coordinates of all the boundary pillars have not been furnished in tabulated format.
6. **GEOLOGICAL PLAN & SECTION:**
  - (i) The redefined UNFC boundaries to be shown in Geological Plan and sections.
  - (ii) Cross section lines with nomenclature have not been shown on the geological plan.
  - (iii) the Geological Plan should be prepared to satisfy the provision as laid down rule 32 (1) (b), (c) and (d) of MCDR'2017
  - (iv) Index of different grade of limestone do not corroborate with the index shown in plan and sections. Need to recheck and correct at relevant places.
  - (v) Proposed boreholes should be shown in plan and sections. The proposed borehole should be shown in dotted lines in geological sections.
  - (vi) The borehole log do not corroborate with geological sections. The lithology shown in geological plan do not corroborate with lithology shown in section.
  - (vii) Scientific correlation of geological section has not been done as per the provision of MEMC, Rules 2015.
  - (viii) In Geological plan, some of the areas have been shown as blank. In those areas, geology of the area should be shown.
  - (ix) UNFC codes, UPL should be shown in Geological sections.
7. **DEVELOPMENT PLAN & SECTION:**
  - (i) Development plan and sections should be revised based on updated geological map and sections.
  - (ii) Index of the UPL shown in plan and section and those shown in index is different.
  - (iii) The proposed and existing bench mRL to be shown clearly over year wise development plan and sections.
  - (iv) Geological information (lithology) to be furnished on development plan and sections. Plan and section should be drawn on same scale.
  - (v) Existing and proposed protective measures and plantation should be shown in different colors around all waste dumps and mineral reject dumps. Index of safety zone boundary and surface right area should have distinct color.
  - (vi) Year-wise development plan and section should be separately submitted on same scale.
8. **ENVIRONMENT PLAN:**

The environment plan has not been prepared as per the provision laid down in rule 32 (5) (b) of MCDR'2017.

**9. RECLAMATION PLAN:**

Existing and proposed protective measures and plantation should be shown in different colors along all waste dumps and mineral reject dumps. Index of safety zone boundary and surface right area should have distinct color.

**10. FINANCIAL ASSURANCE AREA PLAN:**

The area degraded due to mining and allied activity and waste dump sites to be considered in FA calculation. It should be re-calculated complying the parameters mentioned in point no.37 and submitted accordingly. The existing area and additional area under different heads should be shown properly under different coloured hatching.

**ANNEXURES:**

1. The updated list of all the directors to be enclosed. The latest copy of board resolution about nominated owner to be enclosed.
2. Copy of quality of air, water, soil, noise and other environmental a parameters monitoring report of the last year should be enclosed.
3. 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.
4. The details of all the BH to be annexed year wise BH wise. The lithology of the borehole logs should match with the lithology shown in Geological sections.
5. Copy of bank guarantee has not been enclosed. Photographs of boundary pillars should be enclosed.
6. Copies of Form J and Form K of all drilled boreholes have not been submitted.
7. The chemical analysis results of borehole samples from NABL accredited laboratory have not been submitted.
8. NABL accreditation certificate of the laboratory has not been furnished.
9. Indexing of borehole logs with page numbers have not been done in sequence

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25/09/19  
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