



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. MRMP/A/09-ORI/BHU/2020-21

Date: 01.07.2021

To
Shri Sauvick Mazumdar, Nominated Owner & Director,
M/s FACOR Limited, AT-D.P.Nagar,
P.O.- Randia, District- Bhadrak
State -Odisha-756135.

Sub: Approval of Modification of Review of Mining Plan under Rule 17(3) of MCR, 2016 of Kalarangiatta Chromite Mine of M/s FACOR Limited over an area of 23.8 ha. situated in Jajpur district of Odisha.

Reference :i) Your Letter No. KLCM/IBM/91/2021 dated 15.06.2021 received on 21.06.2021.

ii) This office letter of even No. dated 21.06.2021.

iii) This office letter of even no. dated 21.06.2021 addressed to Director of Mines, Government of Odisha Copy endorsed to you.

Sir,

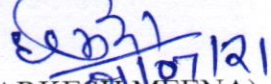
This has reference to the letter cited above on the subject. The draft Modification of Review of Mining Plan along with Progressive Mine Closure Plan (PMCP) has been examined in this office based on site inspection dated 29.06.2021 by Shri Dayanand Upadhyay, Senior Assistant Controller of Mines. The deficiencies observed are enclosed herewith as Annexure-I.

You are advised to carry out the necessary modifications in the draft Modification of Review of Mining 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 Pen drive in a single MS Word file (the drawing/plates should be submitted in Auto CAD compatible format or JPG format in resolution of 100 x 100 pixels on same Pen drive)** with financial assurance under Rule 27 of MCDR 2017 of the Modification of 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 Modification of Review 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

Modification of Review of Mining Plan. It may be noted that no extension of time in this regard will be entertained and the Modification of 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.

Yours faithfully,


(HARKESH MEENA)
Regional Controller of Mines

Copy for kind information and further necessary action to Shri Vinod Saini, Mining Engineer & Shri S.K. Biswal, Geologist, Kalarangiatta Mine, M/s FACOR Ltd., P.O. Kalarangiatta, Dist- Jajpur-755028.


(HARKESH MEENA)
Regional Controller of Mines

Scrutiny comments on examination of Modification of Review of Mining Plan of Kalarangiatta Chromite Mine over an area of 23.80 Ha in Jajpur District of Odisha State of M/s Ferro Alloys Corporation limited

GENERAL:

1. Lessee is a company. Hence, all certificates, undertakings, consent letter etc. should be signed by the nominated owner only. Extract from the minutes of the Board of director meeting with list of Board of Directors, their phone no. address and declaration of nominated Owner to be furnished. Name of the nominated owner should be furnished under name of the applicant.
2. Page-11, Para-(1.2), at present the EC capacity of the mines is 50000TPA, further enhancement of production leads to fresh environmental clearance. Therefore it may be described under the said para with documentary evidence if any.
3. In Para 4.1, the date & reference of earlier approved mining plan/review of mining plan/ modified mining plan etc. should be furnished in tabulated format given below.

Sl. No	Mining Plan / Review of Mining Plan/ Modified Mining plan/ Modification of Review of Mining Plan/ FMCP etc.	Lease area / Area (in Ha)	Submitted Under (Rule Reference)	Approval Letter No. & Date	Period

4. Para-4.3.1, 4.3.3, 4.3.4, & 4.3.6, Page 11-12, the review of earlier approved proposal, the ROM production and excavation of waste etc should be updated and furnished accordingly.
5. Page-20, Para-4.6, reason of modification of the modified review of mining plan submitted under rule 17(3) of MCR 2016 has not been described in light of proposed enhancement of production with specific reason and justification.
6. It has been observed that the experience certificate of qualified persons have not been submitted along with instant document. The experience certificate of all qualified person should be as per provision of rule 15(b) of MCR 2016. Qualified person address, e-mail, Phone number, Mobile number, PIN code and Fax no. should be furnished on cover page.
7. Sequence of para and its numbering as per IBM Manual appraisal MP 2014 should be covered in text. All the headings as mentioned in the IBM Manual appraisal MP 2014 should be furnished in all chapters in the text. All the annexure and text to be properly indexed/ numbered/ paged and signed by qualified person. All the certificates/annexures should bear dated signature.

GEOLOGY:

8. It has been observed that the existing bore holes are not completely furnished in geological plan and sections. All the drilled bore holes should be updated in geological plan and sections. Further the bore holes drilled for the year 2020-21 and 2021-22 has not been completely updated and some of the bore holes are missing.
9. In page 27, 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. The borehole logs of all the previous drilled boreholes should enclosed with document as annexure.
10. Page-29, Para-(5.5.4.3), 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.
11. Page no.31, Para-(5.9), the complete lease area should be proposed to cover under exploration under G1 level at 50m interval in regular grid upto end of mineralization as per provision of rule 12(4) of MCDR2017. The year wise proposal for drilling to be shown in different contrasting color in both Geological Plan and Geological sections.

12. The proposal of exploration to be given in following format:

Year	BH no.	Northing	Easting	Collar RL	Core/DTH	Meter age	Inclination	Forest/ Diversified forest/non forest	Surface right/ non surface right	Purpose of bore holes

13. 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.
14. The area explored under G1/G2....have not been marked as per as per Minerals Evidence of Mineral Contents Rules 2015.
15. Geological sections are to be drawn boundary to boundary as per guidelines of IBM Manual appraisal MP 2014. Boundary line and safety zone have not been clearly marked in geological sections. Surface features like existing dump etc are not shown in sections. A separate longitudinal vertical section is to be submitted along with bore holes data and furnishing with proper UNFC codes.
16. 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.
17. The section wise enhancement of reserve and resources considering the bore holes drilled for the year 2020-21 and 2021-22 should be furnished and it should be distinctly shown in geological sections of better interpretation.
18. The reserve and resources as furnished are not in chronicle order. It should be described with proper sequencing i.e reserve and resources in earlier approved document then total depletion after ROM production and balance reserve as on date. Further the enhancement of reserve and resources based on the new bore drilling should be furnished in separate table with cumulative reserve and resources as on date.
19. The geological sections as prepared are not in the line of the earlier approved document. Some of the new ore body interpreted without exploration data and their depth ward extension are also not proved with bore holes. Further the enhancement of reserve and resources based on change in ultimate pit limit is not Justifiable. The UPL has not been correctly drawn considering surface profile prevailed on mineralization.
20. Based on the level of exploration with reference to the threshold value of minerals declared by IBM, the resources is to be furnished as below:

Level of Exploration	Resources in million tons	Grade
G1 - Detailed exploration		
G2 - General Exploration		
G3 – Prospecting		
G4- Reconnaissance		

21. Reserve and resources are not prepared as per Minerals Evidence of Mineral Contents Rules 2015. The resources furnished under 331, 332, 333 and 334 categories are not supporting with bore holes data. The estimation of resources should be restricted upto the end of the bore only. Some of the resources under different UNFC are furnished within UPL which is not correct. All the reserve and resources should be revised accordingly as per Minerals Evidence of Mineral Contents Rules 2015.

MINING:

22. In present submission the proposed excavation of ROM is not commensurate with the production proposal as furnished in earlier approved review of mining plan and proposed ROM production is 3.0 times more than production proposed in earlier approved review of mining plan. It may be justified with plant capacity.

23. In light of proposed enhancement of ROM production, the space availability for further dumping, stackyard, workshop etc are to be discussed.
24. Page-50, it has been observed that the top soil will be generated during mining operation as proposed. However in insitu tentative excavation the top soil is not proposed. It may be re-checked and corrected.
25. In year wise tentative excavation for the year 2021-22, the production already carried out for the month April and May 2021 should be furnished in bullet notes to synchronize the yearly production proposal. As suggested in geology chapter the development plan and sections should also be revised accordingly.
26. The overall pit slope angle both in longitudinal and transverse direction has not been correctly furnished. The year wise stripping ratio is also not correctly furnished. In view of vertical ore body and availability of space constraint the study of pit slope stability and dump slope stability from reputed institution should be furnished.
27. 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 (coordinates)	
	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)		

28. Drilling and blasting parameters, explosive used and calculation machineries in respect handling of ore and OB have not been described. All the parameters should be discussed as per guidelines of IBM Manual appraisal MP 2014.
29. Page-51, Para-(6.1.5), describe briefly the layout of mine workings, pit road layout, the layout of faces and sites for disposal of overburden/waste along with ground preparation prior to disposal of waste, reject etc.
30. In conceptual mining plan, cumulative waste generation and protective measures should be furnished properly. Restoration of safety zone and slope of the dump may describe 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:

31. The details of existing waste dumps, mineral reject dumps have not been described with their location, area covered, bottom RL and top RL and their designated capacity

32. 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.

Year	Total waste to be dumped (in m3)	Location of disposal	Average height of the dump (in m)	Area to be dumped (in m2)	RL up to which dumping to be done	No of terrace	Terrace height	Slope of the terrace

33. Details proposed retaining wall, garland drain, settling tank etc. to be given year wise with their location. Location of mineral reject storage along with year to year development to be furnished.

PROGRESSIVE MINE CLOSURE PLAN:

34. Page-78 Para-8.1, Baseline information of the lease area has not been described as per guidelines. Further, base line information to be furnished for surrounding 500 meter form lease boundary.
35. Monitoring station of air, noise and water should be described in text and their locations furnished in tabular form. Updated air, water, noise, ground vibration and soil data with analysis from laboratory done at specified periodicity to be enclosed.
36. 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.
37. 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. Year wise plantation covering number of saplings to be planted, location and area covered may be furnished.

FEASIBILITY REPORT:

38. 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 (General):

39. All plans and sections should be signed with date by certified Surveyor, Qualified Person, Mine Manager and Mining Geologist. The date of observation of magnetic meridian and its declination is to be shown in relevant plans.
40. 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. All plans and sections shall show a scale of the plan at least twenty five centimeters long and suitably subdivided.
41. The CCOM circular no.2/2010 and its addendum should be implemented. KML file of existing quarry/waste dump/land use are to be submitted. All the plan and sections should be made in UTM grid.
42. Key plan as submitted is be demarcated with the boundaries of all villages and towns with their population, forests with tree density, approach road to lease area.. Existing and proposed bench mRL to be mentioned in the all plans and sections. The UPL should be shown in red colour in all relevant plans and sections.
43. Surface Plan: The Surface Plan should be prepared to satisfy the provision as laid down under rule 32 (1) (a) of MCDR'2017. 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.

44. Geological Plan & Section: Data related to strike, dip, dip-direction etc. shown clearly on the geological plan. In the Geological Plan UNFC boundaries G1, G2..., explored area, unexplored area, drilled boreholes and year wise proposed boreholes to be shown in relevant colors. In sections UNFC codes have not been furnished as per Minerals Evidence of Mineral Contents Rules 2015. All the drilled bore holes are to be marked in sections and litho units should be matched with bore hole logs. Geological sections are not matched with the calculation table of reserve & resources. Profile of geological sections should be corrected.
45. Development plan & Section: The existing benches are not shown distinctly with their RL. The sequence of development of benches of previous year should be followed in next year development plan. The color codes of Development Plan and Section should be same. Different types of ore encountered through bore holes and based on bore holes data, ore profile and their nomenclature to be corrected accordingly.
46. Environment plan: The Environment Plan as prepared should be satisfy the provision as laid down rule 32(5) (b) of MCDR2017. The drainage pattern of the lease area, contours in core zone and surface structure in buffer zone should be shown.
47. 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.