



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



BY REGD POST  
Phone: 0674-2352463  
Tele Fax: 0674-2352490  
E-mail: ro.bhubaneswar@ibm.gov.in  
Plot No.149, Pokhariput  
BHUBANESWAR-751020

No. RMP/A/15-ORI/BHU/2021-22

Date: 15.07.2021

सेवामे

Shri B C Dagara, Mining Lessee,  
At/P.o- Rairangpur, Dist- Mayurbhanj,  
Odisha-757043

विषय: Approval of Review of Mining Plan of Sulaipat Iron Ore Mine along with Progressive Mine Closure Plan (PMCP), over an area of 618.00 ha in Mayurbhanj district of Odisha State, submitted by Shri B C Dagara under Rule 17 of MCR, 2016.

- संदर्भ: - i) Your letter No. BCD/286/2021-22 dated 23.06.2021 received on 28.06.2021.  
ii) This office letter of even no. dated 28.06.2021.  
iii) This office letter of even no. dated 28.06.2021 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 06.07.2021 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 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 USB Pendrive/Flash drive 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 USB Pendrive/Flash drive )** 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,  
80331  
(हरकेश मोना)

क्षेत्रीय खान नियंत्रक

Copy for kind information and further necessary action to Shri Sanjib Kumar Swain, M/s Techno Chamber, Plot No-16/5, Cuttack Road, Bhubaneswar-751006.

(हरकेश मीना)  
क्षेत्रीय खान नियंत्रक

**Scrutiny comment of Modification of Review of Mining Plan including PMCP in respect of Sulaipat iron ore mine, Lease area 618.0 ha of M/s Birat Chandra Dagara in Mayurbhanj district of Odisha State.**

**GENERAL:**

1. On cover page, the expiry of lease period is not correctly furnished. It should be furnished in light of MMDR (Amendment) Act and 2015 and execution of supplementary lease deed. All the documentary evidences are to be enclosed and marked with annexure.
2. In introduction chapter it is mentioned that about 187.01 ha area was applied for surrender to State Govt. on 21/06/2011. Therefore it may be described with acceptance letter, approval of FMCP if any along with documentary evidence and in light of execution of supplementary lease deed.
3. Period of temporary discontinuance of mining operation and further working permission granted by concerned authority may be described in introduction chapter and documentary evidence is to be enclosed in annexure.
4. Page-2, under para environmental clearance, it is to be described with present the EC capacity along with enhancement of ROM production because its leads to further a fresh environmental clearance.
5. Para-3.3, Page 9-11, the review of earlier approved proposal for the year 2021-22 an updated figure should be furnished along with proper justification of shortcoming in remarks column.
6. The experience of qualified person should be clearly stated in supervisory capacity in the field of mining as per provision of rule 15(b) of Minerals (Other than Atomic and Hydro Carbons of Energy Minerals) Concession Rules, 2016.
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. The sequence of para and its numbering are not addressed as per IBM Manual appraisal MP 2014. The details of existing stacks and waste dumps as furnished in geology chapter should be omitted.
9. Page-15, the deposition of various litho units indicating structural features as furnished in text should be described item wise in brief with their thickness/depth. In the geological section litho contact has not been marked correctly.
10. The lithology shown in the borehole log should be match with the lithology shown in geological plan and sections. The structural information like strike (direction and length), dip, dip-direction etc are to be shown in geological plan.
11. Page 22, rule 12 (4) of MCDR 2017 states that “detailed exploration (G1 level) over the entire potentially mineralized area under the mining lease shall be carried out within a period of five years from the date of commencement of these rules”. However it is observed that the entire lease area has not been covered under proposed exploration. Need to modify the exploration proposal accordingly in text, plates and at all relevant places in the document.
12. The proposal of exploration to be given in following format:

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

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. The proposed bore holes should be depicted in geological section with their depth and RL for better referencing.

13. Page-21, in the table non mineralized area of 8.50 ha is not furnished with level of exploration carried out. The area explored under G1/G2...have not been marked as per as per Minerals Evidence of Mineral Contents Rules 2015. The boundary of G1/G2 level of exploration should be marked clearly in geological plan.
14. Page-26, 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.
15. The recovery factors for ROM and further ore and mineral reject as furnished in table at page no.-26 are not correct and ratio percentage of ore, mineral reject and intercalated waste are not matched with total recovery of ROM. Further at page no.-27, it is mentioned that the lessee has drilled 31 nos. of bore holes during last financial year however in review chapter it is mentioned 30 nos. of bore holes. It should be re-checked and corrected accordingly.
16. Page no.-28, in calculation table of mineral resources under 331 category the word "recovery of ROM" should be replaced with total resources. Page-37, the mineable reserve as depicted in table is not correctly furnished for +55% Fe. Page-43, Total resources as furnished in table under G1 category is not correct.
17. Considering the threshold value 45% Fe for iron ore, estimation of reserve and resources as carried out are not justified with geological sections. The ore +45% Fe-55% Fe as estimated is not clearly marked in geological sections as per bore holes log.
18. The reserve and resources has not been furnished as per Minerals Evidence of Mineral Contents Rules 2015. The geological resources furnished in text under 311 category is totally converted into mineable reserve and recovery parameters as described is not taken into account. The UPL and the ore profile have not been correctly furnished in geological sections prevailed on mineralization and lithological units are also not furnished within UPL. The UNFC codes are not clearly furnished in geological sections.
19. 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 form NABL accredited/Government Laboratory.

#### **MINING:**

20. Page-33, in existing method of mining, period of temporary discontinuance of mining operation and further working permission granted by concerned authority may be described in brief along with statutory clearances..
21. Page-35, the stacks of mineral reject/ore as presented in table are not furnished with average grade and quantity in tonnes. The quantity of mineral reject/ore occupied in different stacks should be matched with annual/monthly returns submitted to this office with their average grade.
22. Page-35, proposed method of mining should be furnished in light of justification of sit selection, production capacity, nos. of pits proposed for production, waste dump and other designing parameters to be discussed.
23. Page-37, in insitu tentative excavation year wise top soil generation is not proposed. It may be justified with lithology of the proposed site and bore hole logs. In year wise tentative excavation the name of the block/pits as proposed are to be furnished.

24. In year wise tentative excavation, it is furnished that recovery of saleable ore, mineral reject & intercalated waste are 90%, 10% & 10% respectively of total excavation. It may be corrected considering the total excavation as 100%. The percentage recovery of the ore, mineral reject & intercalated waste should be justified with the documentary evidences.
25. The excavation proposal should be modified as suggested in geology chapter after modification of the reserve and resources and re-defined ultimate pit limit considering the modifying factors.
26. Page 51, 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.
27. In conceptual mining plan, cumulative waste generation and protective measures should be furnished 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:**

28. 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 of the mineral reject dumps.
29. It should be ensured that the area proposed for dumping should be proved non mineralized. Therefore exploration proposal priorities accordingly.
30. The proposal of dumping may be given in tabulate format as shown below. The year wise build up of dump should be described in details.

year	Waste to be dumped	Dump No	Location of Dumping (Grid)	Proposed area	Proposed dumping RL	No of terrace proposed	Individual terrace height	Slope of the terrace

**PROCESSING OF ROM AND MINERAL REJECTS:**

31. The ROM feed grade and tonnage with recovery%, grade and tonnage of product at each stage of processing may be shown in the flow sheet along with block diagram processing plant. The recovery percentage considered at each stage of processing should be justified properly.

**PROGRESSIVE MINE CLOSURE PLAN:**

32. Page-81, Para-8.1, the baseline information should be described properly incorporating buffer zone of the lease area.
33. Updated air, water, noise, ground vibration and soil data with analysis from laboratory done at specified periodicity to be enclosed. Monitoring station of air, noise and water should be described in text and their locations furnished in tabular form. 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.
34. Year wise plantation covering number of saplings to be planted, location and area covered may be furnished. Matured area of backfilling and dump slope should be stabilized with plantation.

**FEASIBILITY REPORT:**

35. 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:**

36. All the plan and sections should be signed with date by certified surveyor, qualified person, mines manager and mining geologist. The plans and sections submitted bear the certificate that --the plans and sections are prepared based on the lease map authenticated by the state government.
37. 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.
38. 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.
39. 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.
40. The key plan should incorporate all features as mentioned under rule 32 (5) (a) of MCDR 2017 and all features should be shown in index as well.
41. Surface Plan: Forest & Non forest area, Surface right acquired area etc. should be marked clearly. All the mineral reject dumps, mineral stacks, OB dumps should clearly notified with nos. and their RL. Virgin area is to be shown by contours and spot RL in surface plan.
42. Geological Plan & Section: Data related to strike, dip, dip-direction etc. shown on the geological plan clearly. In the Geological Plan UNFC boundaries of G1, G2 .. area are to be demarcated as per MEMC Rules 2015. The Proposed bore holes with their depth should be marked in sections. Some of the indexes are missing, it should be re-checked.
43. Development plan & Section: The year wise development proposal should be furnished in distinct color. Existing and proposed RL of benches/dumps should be mention clearly in development plan and section. Retaining wall and garland should be marked clearly year wise with color codes. UPL should be shown in red color. The dump area depicted year wise in different color with their RL.
44. Environment plan: The Environment Plan as prepared should be satisfy the provision as laid down under rule 32(5) (b) of MCDR2017. The proposed and existing environment protective measures to be shown in environment plan. The drainage pattern of the lease area to be shown on the plan. Contours should be shown in core zone.
45. Reclamation Plan: Proposals of land restoration/reclamation/rehabilitation, afforestation, waste dump management etc should be depicted in Reclamation Plan year wise with different color codes. The proposed retaining & garland wall, settling pond should be furnished.
46. Conceptual plan: Conceptual plan and section 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.
47. FA Plan: 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 FA table should be furnished.