



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/11-ORI/BHU/2020-21

Date: 21.07.2020

सेवामे

✓ Shri Jitendra Nath Patnaik, Mine Owner,
At/Po- Boneikala, Joda
Dist- Keonjhar, Odisha-758038

विषय: Approval of modification of Review of Mining Plan of Bhanjapali Iron Ore Mine along with Progressive Mine Closure Plan (PMCP), over an area of 18.00 ha in Sundargarh district of Odisha State, submitted by Shri Jitendra Nath Patnaik under Rule 17(3) of MCR, 2016.

- संदर्भ: - i) Your letter No. Nil dated 06.07.2020.
ii) This office letter of even no. dated 06.07.2020.
iii) This office letter of even no. dated 06.07.2020 addressed to the Director of Mines, Govt. of Odisha, copy endorsed to you.

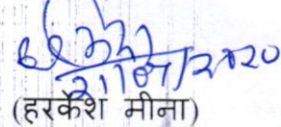
महोदय,

This has reference to the letter cited above on the subject. The draft of modification of Review of Mining Plan along with Progressive Mine Closure Plan (PMCP) has been examined in this office based on site inspection carried out on 17.07.2020 by 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 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 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 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 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 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.

भवदीय.


(हरकेश मीना)

क्षेत्रीय खान नियंत्रक

प्रतिलिपि सादर सूचनार्थ और आवश्यक कार्रवाई हेतु Shri Bhabagrahi Mohapatra, At/Po- Boneikala,
Joda, Dist- Keonjhar, Odisha-758038

(हरकेश मीना)

क्षेत्रीय खान नियंत्रक

SCRUTINY COMMENTS ON EXAMINATION OF MODIFICATION OF REVIEW OF MINING PLAN & PROGRESSIVE MINE CLOSURE PLAN OF BHANJAPALI IRON ORE MINE OF SHRI J.N.PATNAIK, OVER AN AREA OF 18 HECTARES, LOCATED IN BHANJAPALI VILLAGE IN SUNDERGARH DISTRICT OF ODISHA STATE SUBMITTED UNDER RULE 17(3) OF MCR, 2016 AND & RULE 23 OF MCDR, 2017

1. The sequence of paragraph and its numbering as per IBM Manual Appraisal MP 2014 has not been covered in text. All the headings as mentioned in the IBM Manual Appraisal MP 2014 should be furnished in all chapters in the text.
2. All the annexure, text and tables in the text have not been properly nomenclature/indexed/ numbered/ paged and signed by qualified person. Need to do the needful.
3. Lease map authenticated by state government have not been submitted. Authenticated DGPS surveyed lease map showing the excluded area have not been submitted. Further, Plate II and II(A) as mentioned in list of plates have not been submitted. Need to do submit the relevant plates.
4. In the Introductory note in page 1, the reference of annexure no. for suspension of mine operation has not been mentioned. Further, the order from competent authority of state government for resumption of mining operation has not been mentioned and copy of the same order has not been submitted. Copy of notice of re-opening of the mine in Form C has not been submitted as annexure to the document. In the status of Environmental clearance, the approved EC quantity has not been mentioned. Need to do necessary correction and submit the relevant documents.
5. There is no discussion of excluded area as shown in surface plan. The status of existing surface right of the lessee along with forest clearance status in the excluded area has not been mentioned. Need to elaborate in detail.
6. In Para 2 (b), the expiry date of the lease is incorrect and same should be corrected.
7. In Para 3.3, the review of earlier approved proposals for 2018-19 w.r.t exploration is incorrect, actual ROM production, saleable ore and mineral reject production for 2018-19 should be rechecked and corrected. The compliance of afforestation is also incorrect and should be corrected. Further, review FOR 2019-20, the compliance of proposal of exploration is incorrect, break up of ROM production, saleable ore and mineral reject production from Quarry and sub grade dump re-handling has not been furnished with reason of deviation. Need to do necessary corrections at all relevant places.
8. In Para 3.6 and in introductory note, reason for modification for conservation of mineral is not justified as no justification with supporting document has been submitted in favor of dump re-handling for production of mineral from excluded area. Further, proposal of production enhancement is not elaborately discussed and justified as per the provisions of rule 17 (3) of MCR 2016. Need to do necessary corrections.

PART A: Geology and Exploration

9. In page 14-15, in the table showing detail drilling, the year of exploration has not been furnished in the table. In page 16-17, para g and para i, the reference of rule 27 of MCDR 2017 for preparation of geological plan is incorrect. Need to do necessary corrections.
10. Following are the observations made upon scrutiny of borehole logs submitted and borehole locations plotted in plan and sections.

Sl.No	Observation	Scrutiny comment
a	It has been mentioned in page 15 that boreholes drilled during 2011-12 to 2019-20 have been considered for resource assessment. But it is observed in Geological plan and sections that few boreholes drilled during 2005 onwards have been considered for resource assessment	Need to rectify the statement and correct information need to be furnished for borehole used for resource assessment. Further, year of drilling of boreholes need to be mentioned in table in page 14-15. Need to do necessary corrections.
b	Form I and Form J as per MCDR 2017 of boreholes drilled during 2018-19 to 2019-20 have not been submitted.	Need to submit Form I and Form J as per MCDR 2017 of boreholes drilled during 2018-19 to 2019-20
c	It was observed from borehole log shown during inspection that BH-6/19, BH-4/19 has been actually drilled in Quarry -3 but the same has been plotted in Quarry-1.	Need to re-plot the boreholes at correct locations in Quarry-3. Need to do necessary changes in plans and sections and at all relevant places in the document.
d	BH No- 1/05, 2/05, 4/05, 5/05, 11/05, 17/05 have not been plotted in Geological plan and sections whereas the borehole logs of these boreholes have been	Need to plot these boreholes in geological plan and sections. If they are not plotted, justified reasons have to be mentioned.

	submitted	
e	Location of BH-3, BH-5, BH-6, BH-9, BH-16/05 and BH-18/05 have not been plotted correctly in plans and sections.	Need to plot these boreholes at correct location with respect to their coordinates mentioned in borehole logs. Further, coordinate of BH-16/05 as mentioned in borehole log needs to be rechecked and corrected.
f	The borehole no BH-2, BH-10, BH-7/05, BH-10/05, BH-11/05 and BH-16/05 have been terminated in ore zone.	New boreholes have to be proposed in such locations to prove ore body at depth. Proposals should be made to intersect entire thickness of ore body at depth and terminate in waste zone. Need to modify exploration proposal accordingly.
g	No chemical analysis of these boreholes BH-3/05, 6/05, 8/05, 9/05, 13/05, 14/05, 15/05, 18/05, 19/05, 20/05 have been submitted in borehole logs.	In absence of chemical analysis report, the area demarcated as G1 -non-mineralized is incorrect. Need to propose few boreholes at area demarcated as non-mineralized to prove its non-mineralization after chemical analysis of new boreholes samples.
h	There is no information of borehole logs and chemical analysis of PC series of boreholes.	All those boreholes whose boreholes logs and chemical analysis is not available must be omitted. Need to do necessary corrections.

11. It is observed that the current delineation of mineralized and non-mineralized zone is incorrect. The area between 5700E to 5800E and 3600N to 3700N mentioned as barren is not justified as the borehole depths are very limited and no chemical analysis report supporting barrenness of the area (i.e. less than 45% Fe) has been submitted. Hence, this area designated as non-mineralized area explored in G1 level is incorrect. In view of above observations, it is found that lease area explored as per UNFC norms as furnished in table in page 16 is incorrect. Need to re-assess the exploration status of the lease area as per the provision of Part II and Part III of MEMC Rules 2015 with justification. Need to do necessary corrections in text, plans, sections at all relevant places in the document.
12. In view of above observations, the future exploration proposals submitted is insufficient for G1 level of exploration over potentially mineralized area to be completed by 2021-22. Hence, new boreholes in square grid pattern for G1 level of exploration within entire lease area, considering the maximum 50% influence of proposed drill hole points has to be proposed for drilling by 2021-22. Need to modify the exploration proposal accordingly. Need to do necessary corrections in page 41 and at all relevant places. The details of the individual proposed boreholes may be furnished in following tabulated format.

Year of drilling	Section No	Proposed BH no	Core/ RC/ DTH	Northing	Easting	Collar RL	Borehole Inclination	Proposed Depth	Forest area/ Non forest area/ diverted forest area	Area having surface right/ non-surface right area

13. In para j, no justification with supporting documentary evidences have been submitted for recovery factor considered for saleable ore and mineral reject part of ROM, bulk density considered etc. Need to submit bulk density test reports from NABL accredited laboratory. Need to do necessary correction and submit relevant supporting documents for bulk density and recovery factor.
14. In page 18, the ROM production figures furnished in table under "depletion of reserves" are incorrect. Need to do necessary corrections.
15. The residual reserve/resource furnished as on 01.04.2020 by depletion method is incorrect for following reasons: Resources has to be re-estimated considering the boreholes drilled between 2018-19 to 2019-20 and all boreholes considered for resource estimation and complying the above scrutiny points. Further, date of survey is 02.06.2020. Hence, reserve and resources have to be re-estimated by cross-sectional method up to the threshold value of mineral and the resources between the threshold value and the cut-off grade shall be reported separately. The estimation to be made as per the provision of MEMC Rules 2015 as on 02.06.2020. Life of mine has to be re-calculated accordingly. Need to do necessary corrections.
16. In page 22, the reserve and resource estimated as on date is not mentioned. Further, the proportion of different ore types mentioned is not properly discussed and justified. Need to do necessary

corrections. Justification of UNFC codes as per UNFC norms has not been furnished. Need to furnish the same.

MINING:

17. During field inspection it was observed that details of existing dumps furnished in page 27 does not match with the field position. The dump no. 3 to 8 as mentioned in text does not exist in field. Dump 1 and 2 may be termed as mineral reject dump based on chemical analysis mentioned in text. Further, the details of existing waste dump as per field position has not been mentioned in the text. Also, justification of recovery factor of 40% for +55% Fe ore and 60% for 45-55% Fe ore has not been furnished for its quantity assessment. Need to furnish the authentic test reports for recovery factor and grade analysis report from NABL accredited laboratory. Need to furnish the required documents and do necessary corrections
18. Justification with supporting documents have not been furnished for recovery factor considered ore and mineral reject and waste generation both from insitu excavation and during dump-rehandling. In Dump-rehandling, the recovery of 30% ore and 70% waste material from dump-rehandling has not been justified either with test reports or from time series data. Need to submit the necessary documents with justification.
19. No justification has been proposed for rehandling the dump-2 lying in excluded area. Need to submit statutory permission as documentary evidences for rehandling part of dump- 2 from excluded area along with necessary modification in dump rehandling proposal as well as excavation proposal to meet the target ROM production proposal. Need to do necessary corrections.
20. In table showing insitu excavation figures in page 29-30, the excavation proposal separately from quarry 1 and quarry 2 have not been furnished as these are separate quarries. Need to do relevant corrections at all places in the document.
21. In page no. 31 & 33, Grid location for development, sections considered etc. should be rechecked and corrected.
22. Section and RL wise calculation of ROM production and waste generation should be re-estimated based on updated and modified geological plan and sections after complying the above scrutiny points as on 02.06.2020. Further, the actual production during the period April to May'20 should be furnished separately and overall production proposal for the year 2020-21. Need to do necessary corrections at all relevant places.
23. In page 32, it has been mentioned to re-handle dump-2 in 2020-21 but in table it is mentioned dump-1. Further, in 2021-22, it has been shown in development plan for 2021-22 that dump-1 will be re-handled whereas in text it has been mentioned that dump-2 will be re-handled. Need to correct the dump rehandling proposal for both the years complying scrutiny point no. 19 and also matching with the development plan and sections. Further, calculation of dump rehandling from corresponding sections should be rechecked and corrected. Further, recovery ore, mineral reject and waste from dump- rehandling has not been justified with supporting test reports. Need to do necessary corrections at all relevant places in text, calculations and in plates.
24. In para 4(b), para 8.3.1 and at all related places in the document, the area between 5700E to 5800E and 3600N to 3700N mentioned as barren is not justified as the borehole depths are very limited and no chemical analysis report supporting barrenness of the area (i.e. less than 45% Fe) has been submitted. Hence, this area designated as non-mineralized area explored in G1 level is incorrect. However, proposal for dumping should be purely temporary dumping for a short period may be proposed with due technical constraints and justification till the available area is proved barren through drilling and confirmed through chemical analysis of bore hole samples. The term backfilling should be omitted from all places in the document and instead if properly justified then temporary dumping may be proposed. Need to do necessary corrections at all places.
25. The details of protective measures mentioned in page 43 and in page 47 do not match. Need to do necessary corrections at text, PMCP proposal and plates. Existing and proposed mining machinery and manpower for enhance production proposal has not been submitted. Need to furnish the required information.
26. In table 8.13, the break-up of areas in the Mining Lease for calculation of Financial Assurance is not as per the heads mentioned in the format specified in IBM manual for appraisal of MP 2014. Need to do necessary corrections.
27. The copies of valid bank guarantee has not been submitted. The details of bank guarantee submitted should be furnished in the following tabulated format.

Sl. No	Bank Guarantee No	Issuing Bank	Bank Guarantee Amount	Validity of Bank Guarantee

ANNEXURES:

1. All the annexure has not been properly numbered/paged and relevant annexures enclosed does not match with the list of annexures. All the annexures to be signed by qualified person. Need to do necessary corrections.

2. Few photographs showing Land use of the lease area, environmental status of the area has not been submitted. Copy of quality of air, water, soil, noise and other environmental parameters monitoring report of the last year has not been enclosed.
3. Copy of last approved modification of review of mining plan dated 08.03.2019 has not been submitted. Copies of IBM violation letters issued during the last five years and its compliances has not been submitted as annexure. Copies of annual returns need not be submitted. Need to do needful.
4. Copy of RQP certificate, Qualification and Experience certificate of Shri Debasish Gouda has been submitted which is not relevant. Need to remove the same. Further, Educational Qualification Certificate and Professional Experience Certificate as per provision of Rule 15 of MCR 2016 in favor of Shri Bhabagrahi Mohapatra, Qualified Person has not been submitted. Need to do needful.
5. Relevance of annexure X has not been described. 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. Need to do needful.
6. Copies of valid bank guarantees, Copies of Form J and Form K of all drilled boreholes have not been submitted. Need to submit the same.
7. In annexure XVIII, copy of mine resumption permission has been enclosed instead of mine suspension letter as mentioned. Need to submit mine suspension letter, resumption permission from State government and notice in Form C as re-opening of mine under rule 29 of MCDR 2017. Need to furnish relevant documents.
8. Feasibility report has not been submitted. Copies of bulk density test reports from NABL accredited laboratory and recovery test reports have not been submitted. Need to submit the same.
9. Form I and Form J as per MCDR 2017 of the boreholes drilled during 2018-19 to 2019-20 have not been submitted. Copies of borehole sample analysis reports from NABL accredited laboratory for the boreholes drilled during 2018-19 to 2019-20 as mentioned in page 16 of text has not been submitted. Need to submit bore hole analysis report from NABL accredited laboratory. Need to do needful.

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 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. **KEY PLAN:** The key plan have not been prepared as per the provision of Rule 32 (5) (a) of MCDR 2017. The approach road to the lease area, an administrative surface map showing the boundary of the mining lease, and the adjoining area lying preferably within five kilometers thereof etc. have not been shown. Need to do necessary correction.
3. **LEASE PLAN AND DGPS MAP:** Both the plans have not been submitted. Need to submit lease plan authenticated by state government. Authenticated DGPS surveyed lease map showing the excluded area also need to be submitted. Need to submit the relevant plans.
4. Existing waste dump has not been shown in relevant plans and sections.
5. **SURFACE PLAN:**
 - i. The quarry no. 3/1 as mentioned in page 14 of text has not been shown in surface plan. Existing waste dump has not been shown. Need to show the same.
 - ii. The Surface Plan should be prepared to satisfy the provision as laid down rule 32 (1) (a) of MCDR'2017.
 - iii. In the index "PRF" should be elaborated. Further, PRF land, DLC land have not been marked over the plan. The surface right area have not been distinctly marked over plan. It is not clear whether the lessee has surface right over the excluded area or not. Status of land (forest/diverted forest/non-forest) is not shown in excluded area. Need to do necessary corrections.
 - iv. The UPL need to be shown in surface plan. UPL and safety zone need to be shown in index. Need to do necessary corrections.

6. GEOLOGICAL PLAN & SECTION:

- (i) Geological plan and sections to be modified after complying scrutiny point no 11 and all related scrutiny points. The Geological Plan should be prepared to satisfy the provision as laid down rule 32 (1) (b), (c) and (d) of MCDR'2017. Need to do necessary corrections.
- (ii) Forest land, non-forest land, diverted forest land, surface right area etc. need to clearly demarcate in Geological plan. The redefined UNFC boundaries to be shown in Geological Plan and sections. Cross section lines with nomenclature have not been shown on the geological plan. Proposed boreholes should be shown in plan and sections. The proposed borehole should be shown in dotted lines in geological sections.
- (iii) The borehole log do not corroborate with geological sections. The lithology shown in geological plan do not corroborate with lithology shown in section. Scientific correlation of geological section has not been done as per the provision of MEMC, Rules 2015. UNFC codes, UPL should be shown in Geological sections.

7. DEVELOPMENT PLAN & SECTION:

- (i) The site proposed for dumping has not been proved non-mineralized as no chemical analysis of the boreholes drilled in the specified area have been submitted. Necessary changes in dumping proposal to be done complying the scrutiny points as per the provision in IBM Manual of MP 2014. Need to do needful.
- (ii) Development plan and sections should be revised based on updated geological map and sections after complying the scrutiny points.
- (iii) UPL has not been shown in development plans.
- (iv) The proposed and existing bench mRL has not been clearly shown over year wise development plan and sections.
- (v) Geological information (lithology) to be furnished on development plan and sections. Plan and section should be drawn on same scale.
- (vi) 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.

8. ENVIRONMENT PLAN:

The environment plan has not been prepared as per the provision laid down in rule 32 (5) (b) of MCDR'2017. Contours are not visible. Wind rose diagram has not been shown. Need to do necessary corrections.

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. **PROGRESSIVE MINE CLOSURE PLAN:** Need not be submitted as reclamation plan is submitted.

11. FINANCIAL ASSURANCE AREA PLAN:

The area degraded due to mining and allied activity and waste dump sites to be considered in FA calculation. The existing area and additional area under different heads should be shown properly under different coloured hatching.

Sudip Ranjan Mazumdar
21/7/20
(Sudip Ranjan Mazumdar)
Senior Mining Geologist