



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 MS/OTFM/21-ORI/BHU/2018-19

दिनांक / Date: 17.07.2018

To

Shri K. C, Pradhan, Mining Lessee,
Plot No-1262, Road No-8, Unit-9,
Bhubaneswar-751022, Odisha.

Sub: Approval of Review of Mining Plan of Gouua Iron & Mn. Mines over an area of 12.56 ha in Sundargarh district of Odisha of Shri K. C. Pradhan submitted under Rule-17 (2) of the Minerals (Other than Atomic and Hydro Carbons Energy Minerals) Concession Rules, 2016.

Ref: -

- i. Your letter no. GONUA/IBM/MP/2018 dated 29.06.2018 received on 05.07.2018.
- ii. This office letter of even no. dated 05.07.2018.
- iii. This office letter of even no. dated 05.07.2018 addressed to Director of Mines, Government of Odisha copy endorsed to you.

Sir,

This has reference to the letters cited above on the subject. The draft Review of Mining Plan along with Progressive Mine Closure Plan has been examined in this office based on site inspection carried out on 11.07.2018 by Shri Ramkishan R, Sr. Asst. 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 CD in a single MS Word file (the drawing/plates should be submitted in Auto CAD compatible format and JPG format in resolution of 100x100 pixels on same CD)** with financial assurance under Rule 27 of MCDR' 2017 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 modified 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 / yours faithfully,

(HARKESH MEENA)

क्षेत्रीय खान नियंत्रक / Regional Controller of Mines

Copy for kind information and necessary action to:

1. Shri Himanshu Sekhar Sarangi Qualified Person, Plot No-223/2877, Bhimpur, Unit-Vi, Back Side of Maa Sakti Hospital, Bhubaneswar-751020, Odisha.

(HARKESH MEENA)

क्षेत्रीय खान नियंत्रक / Regional Controller of Mines

Scrutiny comment on Review of Mining Plan including PMCP in respect of GONUA Iron & Manganese Mine of Shri K C Pradhan in Sundargarh district of Odisha State.

General:

1. On cover page Mining Lease Number/TC Number/Lease Number, Mine code if any, along with registration number as allocated by IBM under rule 45 of MCDR, 2017 needs to be mentioned. Further, address, e-mail, phone number, fax number of the lessee should be furnished on cover page. PMCP under rule 23B, should be correct as rule 23 of MCDR, 2017. Summary of proposal at a glance may be furnished before "Introduction" chapter covering Exploration, Excavation, Area Utilization, Stacking, Environmental Protective Measures etc."
2. The review of mining plan period should be from 2016-17 to 2020-21, with proposal period from 2018-19 to 2020-21 and lapsed period as from 2016-17 to 2017-18. Accordingly changes should be made in the proposal of entire document.
3. The document should be prepared as per the IBM Manual on Appraisal of Mining plan 2014, no alteration and deletion should be made in the chapters headings, paras.
4. The status of statutory clearances with documentary evidences should be furnished like EC, FC, CTO, surface right area, etc. The reasons for non-operation of the mine should be elaborated in the introduction with documentary evidence.
5. The date of ML expiry to be mentioned as per executed lease deed. Further, the lapse order of the State government has been set aside by Revision Authority. The present status of the ML to be given with documentary evidence. Also the status of court order regarding suspension of mine operations by Range officer, Koida should be elaborated with documentary evidence.
6. Authenticated Land schedule of the ML area with different type of land types should be furnished.
7. The review of last approved mining plan should be furnished like proposal and achievement and reasons for deviation. The gist of violation pointed out by IBM and its compliance is not given for the review period.
8. The reference of MCDR,1988 should be replaced with relevant rules of MCDR, 2017.
9. The qualification and experience of QP should be enclosed as per the rule 15 of MCR, 2016.

1. Geology and Exploration:

10. BH wise information of drilled BH to be given in tabulated form indicating Year, Collar coordinate, collar RL, type (Core/DTH/RC), section number, diameter, spacing, inclination, depth, whether mineralized or non-mineralized etc. trial pits are observed during field visit the details should be given under para (e) in page 10. Further I para (e) eleven (14) number boreholes drilled is furnished, check and rectify the same.
11. From geological plan and section it is observed that some of the drilled BH were terminated in Ore and not drilled up to the optimum depth of the mineralization. Hence, to explore the lease area depth ward infill exploratory drilling may be proposed up to the depth of the mineralization.
12. Reserves / resources should be re-estimated as per the provisions of MEMC, 2015 rules and as per field discussions. The reserves and resources were estimated considering the depth below proved depth as G1/G2, which is not accepted. Lateral influence was also taken into account which is not as per the provisions of MEMC, 2015 rules. Proved depth should be considered up to the end of bore hole depth only. Detail Calculation should be furnished with the section considered like cross section area, influence etc., reserves and resources in float, in-situ ore should be revised
13. The geological section lines may be re-oriented in the mineralized area as per the structural information (attitude of beds) available in geological plan. Sections should only drawn perpendicular to strike of the deposit with equal spacing.

14. IBM mentions only Threshold value grade not cut-off grade so rectify the same and furnish the threshold value limits as notified by IBM. Cut off grade for Iron should be mentioned and accordingly saleable and sub grade material grade should be furnished.
15. The potential mineralised area and non-mineralised area is divided without any proper exploration of the entire lease area. 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 categorized 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 with justification for each category of reserves/resources.
16. 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.

Total Lease area:							Remarks/Comments including reasons for not carrying out the exploration as per UNFC norms.
Item of information	Lease area explored as per UNFC norms (in Ha) as on dt.					Unexplored lease area	
	Total Lease area = A+B+C+D+E						
	G1 Level	G2 Level	G3 Level	Explored and found non-mineralized with level of exploration (Remarks)			
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							
Reserve estimated after above exploration as on dated :							
Remaining Resource after above exploration as on dated:							
Total Reserve/Resource after above exploration as on dated:							

17. Proposal of the exploration given seems to be inadequate to explore entire lease area under G1 level of exploration. Accordingly proposal of the exploration may be revised to explore entire potentially mineralized area under G1 level. Proposed borehole depth should be 300 m or till the end of mineralization accordingly meterage should be calculated.
18. Local geology of the area should be elaborated with different litho units.
19. Furnished information under expenditure incurred for exploration should be supported by documentary evidence as enclosure.
20. The details of exploration to be given in accordance to the land schedule i.e. forest/non-forest/diverted forest/surface right area etc. The details of individual proposed BH to be given in following format:

Sl.No	Year	BH No	Northing	Easting	Collar RL	Core/RC/DTH	Meteage	Inclination	Forest/Non-Forest/diverted Forest	Surface Right/Non-Surface	Purpose of BH
1	2018-19	PBH 01									
2	2018-19	PBH02									
Total						Total BH	Total mts				

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. Same to be depicted on the Geological plan.

21. Recovery and bulk density mentioned of Iron ore both for float and in-situ for sub grade and saleable ore should be properly justified with documentary evidence. The grade of sub grade and saleable grade should be mentioned.
22. 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. Accordingly, the proposal should be given under future exploration programme.

2.MINING:

23. The details of all existing dumps like Sub-grade, waste, mineral reject etc. to be given with dimension and location (extent by coordinats).
24. Grid location of existing workings with details of quarry dimensions like, length width, no of benches, depth etc., and 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, UPL, depth of excavation, direction of advancement, location and geological cross-section area considered.
25. Geological Section wise of proposed ROM excavation quantity in for very year should be provided. Sections may be equally spaced so that the entire area proposed for excavation may cover.
26. Use of machinery in excavation of float and in-situ ore should be elaborated in detail and accordingly bench widths should be proposed suitably as per the statutory provisions.
27. The year wise excavation proposal should be given in the following format separately for each year.

Particular for the year...		
Bench Geometry	Height (in m)	
	Width (in m)	
	Individual bench slope angle	
Road Design	Gradient of Haul Road	
	Ramp gradient	
	Berm Height	
Quarry Development	Location of Development	
	Sections considered for development	
	Number of benches	
	Benches considered for development with RL	
	Length of proposed benches (in m)	
	Direction of advancement	
	Dimension of the quarry at the end of the year including existing benches	
	Overall quarry slope angle	
	Production of Saleable 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 MT)		

28. Production table should be furnished as per IBM manual format and sub grade production should be shown under mineral reject. Production of iron ore should be modified as per the revised reserves and should be within the limit of EC.
29. Drilling and blasting operation should be elaborated in detail with details of explosive magazine and type of explosive used, blasting pattern.
30. Backfilling proposal may be considered in the float ore zone if the mineral is going to be exhausted.
31. The fleet of machineries required to modified as discussed during field visit. Further, the stripping ratio may also be given in T/Cum.
32. Conceptual mining should be modified as per the revised reserves/ resources. Backfilling of waste be may be considered if the mineral is exhausted.
3. **Mine Drainage:** Considering the topography of the lease area, it appears that the slope is towards East. Hence, a mine drainage plan to be submitted showing catchment area, flow direction of the water, location of final discharge, arrangement for arresting of solid waste etc. showing retaining wall, garland drain, settling tank, check dam etc.

4. Stacking of Mineral Reject/Sub-grade and Disposal of Waste:

33. The proposal of waste handling should be reviewed as discussed during field visit. Further, Build-up of dumps from year to year to be given in tabulated manner considering designed capacity of dumps, bottom and top mRL of individual terrace, dump slope, individual terrace height and slope.
34. The tables as per IBM Manual appraisal MP 2014 should be furnished.
35. Information on mineralization or non-mineralization proved in the underlying area of all the proposed and existing dumps should be furnished.
36. Location of mineral reject / sub grade dump should be furnished with protective measures.
37. The existing waste dump should be rehandled and only one waste dump should be maintained. Accordingly proposal of waste dumping should be modified.
38. Details of existing and proposed retaining wall, garland drain, settling tank etc. to be given with their location along with proposal of maintenance of all existing retaining wall, garland drain, settling pond and check dam to be given. Proposal around the existing and proposed waste dump should be reviewed.

5. Use of Mineral and Mineral Reject:

39. All the information under sub chapetrs like 5 a),b)... etc should be furnished.

6. Processing of ROM and Mineral Reject:

40. All the information under sub chapetrs like 6 a),b)... etc should be furnished.

7. Others:

41. The details contractual and departmental manpower to be given separately.
42. The present and proposed strength of manpower should be furnished. Since it is a Category 'A' mine full time Mining engineer should be appointed.

8. Progressive Mine Closure Plan:

43. The present land use pattern should be reviewed and modified as per the exact field conditions as discussed during the field visit. The land use pattern at conceptual stage should be furnished instead of using beyond plan period term, and status of land use under different heads to be furnished.
44. The report of the environment monitoring has to enclosed and reference of same to be mentioned. Updated air, water, noise, ground vibration and soil data with analysis from laboratory done periodicity for last one year to be enclosed.
45. The location and schedule of environment protective measure to be given in text. It is advised that most of the plantation work to be completed in year 2018-19 only. The year 2019-20 should be for post care maintenance only. Accordingly proposal may be revised.

46. The present degraded land is less than previous approved mining plan. It should be re-calculated and submitted accordingly as discussed during the site visit. The area degraded due to mining and allied activity to be considered in FA calculation
47. Summary of year wise proposal under reclamation and rehabilitation measures should be proposed with planation in barren area, safety zone area, protective measures around waste dump and subgrade dump like retaining wall, garland drain,, check dams. Etc.,

9. Feasibility Study Report

48. Feasibility assessment report should be prepared and submitted as per UNFC guideline considering all technical and economic parameters along with guideline as per CCOM circular 1/2006 and 4/2009 considering all technical, financial and economic parameters described in UNFC guideline and or as per parameter described in M(EMC) rule 2015.

10. Plates:

49. The extent of lease area of the mine should be mentioned in 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.
50. Magnetic Meridian and date of observation of should be given on all relevant plans. Further, the UPL should be shown in red colour in all relevant plans and sections.
51. 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. Date of survey should be given on all plans and sections and signature should bear date of signature.
52. 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.
53. Key Plan: The approach road to lease area has not shown. Plan should be prepared as per rule 32 (5) (a) of MCDR, 2017.
54. **Surface Plan:** Forest/non-forest/diverted forest/private land/SR area to be shown. Latitude and longitude along with UTM coordinates of all the boundary pillars as per DGPS map to be mentioned in plan. Further, few pillars may be correlated with some permanent ground features giving distance and direction. The exact configuration of trench, waste dumps should be plotted on the surface plan. Surface plan should be prepared as per rule 32 (1) (a) of MCDR, 2017. Common boundary if any should be shown.
55. **Geological Plan & Section:** plan and section should be prepared as per 32 (1),(b),(c), (d) of MCDR, 2017.
56. Geological plan does not illustrate geological feature of the area such as orientation of ore zone, structural information like strike, dip, dip-direction etc. All these information should be reflected on geological plan and section. Check and rectify. Further, the index in geological plan and section should be same. Further, the depth of the proposed exploratory and drilled BH to be mention at the end of the BH. Level of exploration area should be marked such as G1, G2, etc.. 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.
57. Grid lines (450W, 500W) should be shown on all sections. further the same should be shown on all sections submitted. UPL should be shown.
58. **Development plan & Section:** The layout of the haul road for present and future workings has not been depicted on the plan and sections. Further, existing position of waste dump and proposed dump (if, any) height is to be marked with mRL.
59. Each year development proposal for different locations should be shown separately in different color with configuration of year wise benches. Composite development plan and section to be submitted.
60. The sections may be equally spaced according to the excavation area so that the sections will cover the entire excavation area proposed. Litho units should be shown in all sections. Grid lines (450W, 500W) should be shown on sections and also in all sections. UPL should be shown.

61. The benches and configuration of existing and proposed quarries should be shown in different legends.
62. **Environment plan:** All feature as mentioned under rule 32(5) (b) of MCDR2017 to be depicted. Surface features and contour of adjacent mine has not been shown in core and buffer zone. Wind rose diagram to be depicted.
63. **Reclamation plan:** reclamation plan showing the proposed reclamation and rehabilitation measures should be submitted.
64. **Financial Assurance Area Plan:** The amount of financial assurance calculated is not as per rule 27(1) of MCDR-2017. The area degraded due to mining and allied activity to be considered in FA calculation. The present degraded land is less than previous approved mining plan. It should be re-calculated and submitted accordingly

11. Enclosures:

65. The copy of the qualification & experience certificate in respect of the QP to be enclosed.
66. Copy of lease deed executed with copy of authenticated land schedule should be enclosed.
67. Consent to operate from SPCB state government should be enclosed.
68. Copy of surveyor certificate should be enclosed.
69. Copy of quality of air, water, soil, noise and other environmental a parameters monitoring report of the last year should be enclosed.
70. All the annexure to be properly numbered/paged and relevant annexure to be signed by Geologist/surveyor/RQP etc. It is observed that many of the annexures are not legible. A legible copy of same to be enclosed.
71. Copy of previous approved mine plan & scheme of mining letter should be enclosed.
72. Details of all borehole logs should be enclosed. Analysis reports of stacks should be enclosed.
73. Recovery test, bulk density test reports carried out in NABL laboratory should be enclosed.
74. Copy of bank guarantee should be enclosed.
75. Photographs of boundary pillars should be enclosed.
76. Proceedings letter no 671/S&M.III(B)SM-08/2013/S&M, dated 27.01.2016, should be enclosed.
77. Certificate from the lessee should also include: The information furnished in the Review of mining plan and Progressive Mine Closure Plan is true and correct to the best of my knowledge and records. It is to undertake that all the measures proposed in this Progressive/Final Mine Closure Plan will be implemented in a time bound manner as proposed.
78. A legible copy of photo id, address proof and signature proof of lessee to be enclosed.
79. The revision authority vide its order dt. 20.12.2017 delivered on 28.12.2017 regarding the compensation demand raised by DDM, Koira as mentioned in letter no.III(b)-13/1994 dated 09.03.2018 should enclosed
80. Copy of form I and J (year wise) as per MCDR, 2017 to be enclosed for all the drilled BH for ready and future reference as per Rule 47 and 48 of MCDR, 2017. The same should be signed by the Geologist appointed under MCDR, 2017. The section should be correlated with available information i.e BH data, surface geology etc.

In view of above, wherever necessary correction required to be made.

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A. Dixit