



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 MSM/FM/11-ORI/BHU/2018-19

दिनांक / Date: 06.06.2018

To

Thachat Viswanath Narendran,
CEO & Managing Director,
M/s Tata Steel Limited,
At/Post-Jamshedpur,
Dist- East Singhbhum,
Jharkhand-831001.

Sub: Approval of Modification of Review of Mining Plan of Tiringpahar Iron & Manganese Mines over an area of 643.710 ha in Keonjhar district of Odisha of M/s Tata Steel Limited submitted under Rule-17 (3) of Minerals (Other than Atomic and Hydro Carbons Energy Minerals) Concession Rules, 2016.

Ref: - i) Your letter no. MGM/P&E/979/2018 dated 14.05.2018 received on 21.05.2018.
ii) This office letter of even no. dated 21.05.2018.
iii) This office letter of even no. dated 21.05.2018 addressed to the Director of Mines, Govt. of Odisha, copy endorsed to you.
iv) This office letter of even no. dated 31.05.2018.

Sir,

This has reference to the letters cited above on the subject. The draft Modification of Review of Mining Plan along with Progressive Mine Closure Plan has been examined in this office based on site inspection carried out on 10.01.2018 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 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 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 Modification of Review of Mining Plan document.

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 / yours faithfully,


(HARKESH MEENA)

क्षेत्रीय खान नियंत्रक / Regional Controller of Mines

Copy for kind information and necessary action to:

1. Shri Amit Kumar Debey, Qualified Person, Ferro Alloys and Minerals Division, M/s Tata Steel Limited, At/Post-Bichakundi, Dist-Keonjhar, Odisha-758034.

(HARKESH MEENA)
क्षेत्रीय खान नियंत्रक / Regional Controller of Mines

DFA

Scrutiny comments in respect of Modification of Review of Mining Plan of Tiringpahar Iron & Manganese Mines of M/s Tata Steel Ltd in district Keonjhar of Odisha

Text:

GENERAL

1. The Mine code should be furnished on cover page.
2. Reason for justification of deviation in afforestation during 2015-16 to 2017-18 should be furnished.
3. The land schedule details over 643.71 ha should be furnished, which includes the applied surrender area with approved FMCP.
4. The extent and nature of surface right being held by the Lessee to carry out various mining activities be indicated with documentary evidence.
5. "Mineral Conservation and Development Rules 1988" to be replaced with "Mineral Conservation and Development Rules 2017" in the content of different parts of the text. The reference quoted at MCDR 1988 may be replaced with relevant rules under MCDR, 2017.

GEOLOGY AND RESERVE

6. The details like potentially mineralized area for iron and manganese and its extent (coordinate in WGS 84), potentially mineralized area explored (in forest and non-forest area, Govt. land, Pvt. land etc.), remaining area, proposal of exploration to explore remaining potentially mineralized area to be given with justification of adequacy in accordance with MEMC 2015 rules.
7. The type of deposit for iron and manganese as per MEMC 2015 rules may be clearly defined like bedded, regular, irregular deposit etc. the strike and dip parameters shall be mentioned in the text and relevant plans and sections shall be drawn accordingly. For hematitic siliceous ore of iron ore the threshold value should be considered minimum from 35% Fe while estimating the reserves and resources. The bulk density and recovery factor considered for Iron ore should be supported with test reports of NABL accredited/Government Laboratory.
8. Reporting of Mineral Resources in the format prescribed in Part IV-A of Minerals (Evidence of Mineral Contents) Rules, 2015 to be submitted.

Recovery factor while estimating the iron ore reserves/ resources from mineralised zone shall be dealt with.

Already explored area should be categorised under UNFC should be furnished in the following format.

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

9. The depth of the proposed boreholes should be adequate enough to justify the lateral and depth extension of the ore zone along and across the section lines up to the end of mineralization considering the geology and nature of ore deposit.

The proposal for future exploration program should be furnished in tabular format so that the entire mining lease area should be explored under G1/G2 level of exploration as per MEMC Rules, 2015 indicating proposed borehole number, section line, coordinates, proposed depth, inclination, year of drilling etc. accordingly the proposal of future exploration programme may be modified. The details of individual proposed BH to be given in following format:

Sl.No	Year	BH No	Northing	Easting	Collar RL	Core/RC/DTH	Metage	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.

10. The final presentation of total reserve and resources of Iron and Manganese of different grades should be in furnished in one table each for Iron and manganese. Cross validation report of block model results should be furnished. it is observed that an increase and decrease in different grades of estimated reserves/resources of manganese and Iron as compared to previous approved document which should be detailed explained with proper justification. It is reported that exploration carried out during the period from 2015-16 to 2017-18, so relevant forms under rule 47, 48 of MCDR, 2017 should be annexed.

MINING

11. The proposed and actual development carried out of different pits, quarries for iron and manganese during last five year period shall be furnished with information on benches, grid location, mRL etc.
12. Stripping ratio may be furnished in t/cu.m format.
13. Ultimate pit depth is to be mentioned in all the working areas. Grid location of proposed working areas to be given for the proposed period.
14. Quantum of production and development may be described year wise with no. of benches, mRL, depth of excavation, direction of advancement, location and cross-section area considered for both Iron and Manganese ore. The mRL at the end of each scheme period shall be mentioned in a tabular format for every pit area proposed with dimensions and no of benches with height and width and grid location for both iron and manganese ore.
15. The procedure of generated lumps and fines after processing shall be dealt in detail like their dispatch and stacking. Protective measures around stacked materials shall be furnished. Present quantity of stacked material with its location and stacking parameters shall also be furnished for lumps and fines.
16. Geological Section wise of proposed ROM excavation quantity in for very year shall be provided. Sections may be equally spaced so that the entire area proposed for excavation may cover.
17. The proposed excavation zones for the year 2018-19, 2019-20 are concentrated in iron ore zone, but no handling of iron ore is furnished, review and properly justify the same.

18. ROM production of manganese ore is proposed to increase from 85000 TPA to 100000 TPA so undertaking shall be given by nominated owner so that necessary statutory clearances will be taken to produce the said quantities.
19. In conceptual plan the intention of proposal for common boundary mining with Bamebari mine in the interest of conservation of minerals is proposed. The detailed calculations along with diagrams regarding the quantity of locked up and mineable reserves along common boundary should be furnished.

HANDLING OF MINERALS REJECT/ SUB-GRADE AND DISPOSAL OF WASTE

20. Information on mineralisation or non-mineralisation proved in the underlying area of all the proposed and existing waste dumps/subgrade dumps shall be furnished in detail.
21. Present and 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, grid location and slope with description of method & manner of disposal of waste should be mentioned. Nature of dumps whether temporary or permanent shall also be mentioned.
22. The table furnished in page no79 should also include a column like proposed beneficiation quantity along with blending, storage of mineral rejects. Mineral rejects quantities should also be furnished in tonnes. The figures furnished regarding generation of mineral rejects/subgrade mineral in table 4.2 are not matching with table 4.1, rectify the same.
23. Waste dumping is proposed on the green belt planation in Guruda Block-B waste dump, so review the proposal.

PROGRESSIVE MINE CLOSURE PLAN

24. Land use pattern of additional land requirement during scheme period may be provided year wise. Land use pattern should be furnished for 643.710 ha.
25. Proposal for reclamation and rehabilitation measures shall be furnished year wise separately for 2018-19 and 2019-20.
26. The FA calculations should be based on 643.710 ha.

OTHERS

27. Existing and future employment may be elaborated like mine manager, mining engineer, geologist, skilled and semi- skilled etc., with departmental and contractual manpower strength.

Plates:-

General:

28. The extent lease area of the mine shall be mentioned in the name plate of all plan and sections. 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 shall follow the conventions mentioned under MMR 1961.
29. All plans and sections shall show a scale a scale of the plan at least twenty five centimeters long and suitably subdivided. True and magnetic north shall be depicted in all plans with date and variation.
30. 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 statutory plans & sections should be prepared over an extent area of 643.71 ha only. Authenticated lease plan signed by competent authority of state government should be submitted over 643.71 Ha and also for the retained area of 169 ha. Scale of the plans & sections should be as per rule 31(1) of MCDR, 2017.
31. Date of survey shall be given on all plans and sections and signature should bear date of signature.
32. DGPS map authenticated by competent authority over the entire lease area should be submitted.

KEY PLAN

33. Lease area should be plotted over an extent area of 643.710 ha.
 34. Approach road to the lease area should be shown
- Surface Plan:**
35. Surface right area shall be shown on surface plan. Power transmission lines to be shown in the plan. The area applied for surrender of FMCP approved area should be shown with different legend. All boundary pillars coordinate in UTM, Latitude and longitude to be shown in tabulated form on surface plan. Few pillars may be correlated with some permanent ground feature giving distance and direction. Safety zone should be marked all along the retained lease area.
- Geological Plan & Section:**
36. The geological sections should be plotted equally spaced and should cover the entire explored area with boreholes. The submitted sections drawn only in Guruda block-A, Block-B area only.
 37. In the Geological Plan and sections UNFC boundaries, UNFC codes, explored area, unexplored area, mineralised area, non-mineralised area should be divided

in forest, non forest areas and forest diverted area, drilled boreholes till date and year wise proposed boreholes in relevant colors and legends to be shown.

38. 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.
39. A separate plan called UNFC plan showing the Lease area, Forest-Non-forest and Diverted Forest boundary, UNFC boundaries, Surface right area, explored area, unexplored area, mineralized and non-mineralized area, UPL, already drilled boreholes in black color and year wise proposed boreholes in relevant colors to be submitted.
40. All the already drilled boreholes to be shown in all the relevant plans (Geological Plan, Surface plan, UNFC plan etc) and Geological sections. The year wise proposal for drilling to be shown in different contrasting color in both plans (Geological Plan, Surface plan, UNFC plan etc) and Geological sections. The year wise color of the boreholes proposed in Geological plan should match with the plotted proposed boreholes in Geological sections.
41. Data related to strike, dip, dip-direction etc. shown on the geological plans are inadequate. Some more data may be shown to understand the geology of the area.
42. The index of the Geological plan and sections to be revised indicating the index for year wise drilling proposal, mineralized and non-mineralized boundary.

Development plan and Sections

43. Each year development proposal for different blocks should be shown separately in different color. Composite development plan and section to be submitted.
44. The sections may be equally spaced according to the excavation area so that the sections will cover the entire excavation area proposed.

Dump plan

45. Dump plan and sections may be provided showing the existing and proposed dumps during review period with all design parameters.

Conceptual plan

46. The sub grade dumps and waste dumps at the conceptual stage shall be clearly marked with legend / name on the conceptual plan & sections.

Financial Assurance Plan

47. The FA plan soft copy in Autocad DWG file should be submitted.

48. Area considered under green belt planation in Guruda block-B, should be reviewed as dumping is proposed on the green belt planation.

Environment plan

49. The proposed and existing environment protective measures to be shown in environment plan. The drainage pattern of the lease area also to be shown on the plan.

50. The Environment Plan as prepared should be satisfy the provision as laid down rule 32(5) (b) of MCDR, 2017.

51. The particulars with regard to items (ii), (iv) and (v) of Rule 32(5) (b) shall be applicable only up to sixty meters beyond the boundary of lease area. The same should be demarcated in Environment plan.

52. Wind rose diagram plotted should be legible. Predominate wind direction plotted in key plan and environmental plan are contradictory, should be checked.

Environment Mangament plan

53. Year wise progress of dumping, stacks, afforestation using different colour codes for easy understanding may be shown.

