



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/31-ORI/BHU/2019-20

दिनांक / Date: 25.10.2019

To

Shri T. V. Narendran,  
Nominated Owner,  
M/s Tata Steel Limited,  
At/Post-Jamshedpur,  
Dist- East Singhbhum,  
Jharkhand-831001.

Sub: Modification of Review of Mining Plan of Joda West Iron & Manganese Mine over an area of 1437.719 ha in Keonjhar district of Odisha of M/s Tata Steel Limited submitted under Rule-17 (3) of MCR, 2016.

Ref: - i) Your letter no. MGM/P&E/710(A) dated 30.09.2019 received on 14.10.2019.  
ii) This office letter of even no. dated 14.10.2019.  
iii) This office letter of even no. dated 14.10.2019 addressed to the Director of Mines, Govt. of Odisha, copy endorsed to you.

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 23.10.2019 by Shri G. C. Sethi, Deputy 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 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 / yours faithfully,

(HARKESH MEENA)

क्षेत्रीय खान नियंत्रक / Regional Controller of Mines

Copy for kind information and necessary action to:

1. Shri Sabyasachy Mishra, 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

File 1125



**SCRUTINY COMMENTS ON EXAMINATION OF MODIFICATION OF REVIEW OF MINING PLAN & PROGRESSIVE FOR JODA WEST IRON & MANGANESE MINE OF M/S TATA STEEL LTD., OVER AN EXTENT OF 1437.719 HECTARES, LOCATED IN JODA, KAMARJODA, BANSPANI, BICHAKUNDI, BHUYAN ROIDA VILLAGES, UNDER CHAMPUA SUB-DIVISION OF KEONJHAR DISTRICT OF ODISHA STATE, SUBMITTED UNDER RULE 17(3) OF MCR, 2016 AND & 23 OF MCDR, 2017.**

(1) On examination of the contents for list drawings, it is found that, separate drawings for sub-grade ore stacking, present land use, diverted broken up forest land and diverted virgin forest land etc. are submitted, which are not required, instead the same should be depicted on surface plan, geological plan & other relevant plans. Therefore, it is not necessary to submit so many plates, rather minimum number of drawings as required in the prescribed format for preparation of review of mining plan/modification of the mining plan should be submitted.

(2) On examination of the copy of the resolution of the board of directors enclosed as annexure-1, it is found that, Shri T.V. Narendran is appointed as Occupier of so many companies under Factories Act, 1948 but he has not been nominated as Owner of the mines under Mines Act. No such mention is found in the enclosed board resolution. Moreover, the list of Board of Directors of M/s TATA Steel, dated 18.04.2019 has been enclosed as annexure-4 but the resolution of the board of directors passed on 22.10.2013 has been enclosed, which is not proper.

(3) In the contents for list of plates, the annexure-5 is intended for details of authorized person but who is the authority not known. Moreover, the experience certificate enclosed in favour of Shri Sabyasachy Mishra is not adequate for preparing the review of mining plan/modification of mining plan, thereby minimum experience required under Rule 15 of MCDR, 2016 to be submitted.

(4) The copy of the lease grant order has been enclosed as annexure-6 but the copy of the lease deed executed originally has not submitted.

(5) The mining plan approval letters has been enclosed as annexure-10, on examination of the same, it is found that the copy of the approval letters prior to 12.03.2002 are missing, which should be submitted.

(6) The copy of the typical analysis of saleable manganese ore done in house has been enclosed as annexure-17, instead the analysis of the same from 3<sup>rd</sup> party NABL should be obtained and submitted for more informative.

(7) Details of borehole logs are enclosed as annexure-18 but it is not known from where such borehole logs are procured, which should be mentioned. It is also not known when such bore holes were drilled. Sufficient evidence to be established that, these boreholes are drilled in Joda west manganese mine of M/s TATA Steel Ltd., during so and so period along with the Form J & K in support of such drilled boreholes. Simply enclosing the bore hole data/logs without any other details will not be entertained. Moreover, authenticated analysis report for such logs has not been enclosed. Besides, atleast 10% of the analysis of such n boreholes should be done by third party NABL/Govt. Lab. and the same also not been done.

(8) A geological agenda note has been enclosed as annexure-20 but is it really necessary to be enclosed along with the modification document? Certainly not.

(9) On examination of the local co-ordinates of the proposed bore holes enclosed as annexure-21, it is found that, most of the proposed boreholes are for core/RC type, instead is should be either coring or RC. Besides, the entire lease area has not been covered under the proposed exploration schedule; thereby the exploration proposal should be revised accordingly.

(10) The enclosed annexure-23 is for UNFC classification and justification of reserves and resources, which should not be a part of the annexure, instead the justification in estimation of reserves resources should be the part of the text in the chapter Geology & Exploration.

(11) The details of resources/reserves for manganese established at +25% Mn. and for iron ore +58%Fe has been furnished in the enclosed annexure-24 and on examination of the same, the following observations are made: (i) Thickness of the resources estimation both for manganese and iron ore is not known (ii) The tonnage factor for manganese is 2.5 & the same for iron ore is 3.0 but bulk density test report for the same from 3<sup>rd</sup> party NABL or Govt. laboratory has not been submitted. (iii) The basis on which the recovery of manganese and iron ore percentage computation has not explained, which should be supported by an authenticated recovery test report from 3<sup>rd</sup> party NABL accredited laboratory or Govt. laboratory. (iv) No authenticated analysis report for the grades of the resources/ reserves also submitted, which should be from the basis of the litho log analysis of the bore hole samples of individual bore holes. In view of the above, it is found that, the reserves estimated are not as per the UNFC guidelines. For reserves estimation, the following procedure is to be followed:-

Initially cross section wise reserves/resources should be established for G1, G2, G3 and G4 categories of UNFC system based on the degree of exploration and prospecting carried out in the entire lease area as per criteria laid down in the guidelines. This should include the entire resources within the lease including the boundary barriers, mineral to be locked up in benches etc. After this, the geological reserves/resources should be upgraded to various categories of UNFC based on their feasibility and pre-feasibility studies with suitable justification for each category. Further, the reserves /resources which is not mineable due to statutory barriers, safe working of the mine, waste dumping, internal roads, forest area for which clearance is not there should be put under the (211), (221) & (222) resources category of UNFC. Reserves below the cut-off grade should also be put under the feasibility / pre-feasibility resources category and the same should be adequately discussed in the feasibility study report. Accordingly, corresponding changes may also be made in geology & exploration chapter.

(12) The ambient Air quality, water quality & noise level analysis report has been enclosed as annexure-25,26,27 & 28 but the report pertains to last four seasons ended by September 2019 has not been submitted.

(13) The copy of the surveyor's certificate has been enclosed as annexure-35 but his employment status in Joda West Manganese mine has not been submitted.

(14) The annexure -39 is volume calculation in cross sectional methods, which such terminology are used not understandable. What for the volume is calculated. What is represented by FY 20, FY 21 etc., instead the annexure should be named as excavation planning or production planning for 2019-20 to 2022-23.

(15) The copy of the valid bank guarantee valid bank guarantee matching to the ensuing modification of mining plan period for the extent of area put to use in different counts has not been submitted.

(16) Few fresh photographs of the quarry, dump, stack, plantation, reclamation, rehabilitation, exploration & boundary pillars should be submitted by replacing the photographs enclosed as annexure41.

(17) Details of the mining leases available with M/s TATA Steel Ltd to be furnished in table No.1, instead of land classification of Joda West lease. [Para 2.0(b)]

(18) The review status on account of exploration, development, production, afforestation etc. for 2019-20 is uncalled for as the modification of the document has been submitted for 2019-20 to 2022-23. Accordingly, necessary modifications/corrections may also be made in other places of the entire document. (Para 3.3)

(19) Enhancement of production should not be criteria for modification of the mining plan, thereby suitable valid reasons for the same should be furnished. (Para 3.6)

(20) During the period from 2019-20 to 2022-23, there are 781 nos. of boreholes are proposed to be drilled in the form of core/RC/DTH categories, instead the proposed numbers of holes on account of core, RC & DTH should be furnished separately. Besides, the extent of area proposed to be explored in each year should also be furnished in the refer table. Moreover, **the balance un-explored area should be explored by drilling core boreholes atleast G2 level and exploration proposal should be restricted to the modification period.** Accordingly, necessary modifications/incorporations may also be made in connected paras in the text with proper plate reference. (Table-17)

(21) On the basis of manganese and iron contain, the grades of manganese & iron ore has been furnished, instead the grades of iron ore and manganese available in Joda west Manganese mine only need to be furnished supported by authenticated chemical analysis report from 3<sup>rd</sup> party NABL. (Table 18 & 19)

(22) Huge reserves of manganese and iron ore have been estimated without proper and authenticated borehole data. Therefore, chemical analysis of all the coring bores should be done through the 3<sup>rd</sup> party NABL and the reports may also be submitted along with the bore hole logs for more informative. Moreover, in the geological plan & sections also interpretation of the litho units is found to be erratic. In view of the above, matching reference with the borehole logs to be taken into consideration for estimation of reserves/ resources on accurate basis for careful estimation. In view of the above factors, the reserves/ resources calculations furnished in the enclosed annexure-39 may also be revised critically. (Table 20)

(23) As on what date the reserves and resources are estimated is not known. Therefore, the same should be indicated. (Table 20 & 21)

(24) The final reserves and resources are arrived after depletion of production for the reserves /resources estimated in the previous document + additional enhancement reserves /resources on the basis of exploration done recently, which is not acceptable. Therefore, the reserves/resources should be re-estimated in fresh considering the all existing quarries as well as the already drilled boreholes. Accordingly, the plates for geological plans and sections and all other relevant plates may also be revised. (Table 23 to 27)

(25) In the table 38 furnished, under the heading **Insitu Tentative Excavation**, the following observations are made: (i) During the years 2019-20 & 2022-23, the excavation planning for 4nos. of manganese quarries such as D-quarry, H-quarry & DQ-extn. and H-quarry are proposed under excavation for manganese production but operation of so many quarries leads to unsystematic mining, thereby, by keeping the proposed production level intact, the number of working quarries should be restricted to maximum 2 for the sake of minimum land degradation & scientific mining. (ii) The proposed status of OB/SB generation, production of manganese ore & mineral rejects generation has been furnished in the above referred table but the bench/RL of the excavation planning has not been given, which should also be furnished by adding one more column in the table. (iii) The recovery percentage of the manganese & mineral reject is missing, which should be furnished supported by authenticated recovery test report. (iv) The location co-ordinates of the excavation planning for each year also not furnished and the same may also be given by adding one more column in the table with proper plate reference. (v) The grades of manganese ore & mineral reject may also be furnished supported by authenticated chemical analysis report. Accordingly, corresponding incorporations / modifications may also be made in connected paras in the text & relevant plates. (Page No. 50 & 51)



(26) In the table 41 furnished, under the heading **Insitu Tentative Excavation**, the following observations are made: (i) During the years 2020-21 to 2022-23, the excavation planning for 2nos. of iron ore pit such as north pit & south pit are proposed under excavation planning but production proposed from both the pits can be achieved from a single pit during 2019-20 & 2021-22, thereby any one of the pit can be proposed to achieve the required production. In 2022-23, both the quarries can be proposed (ii) The proposed status of OB generation, production of iron ore & mineral rejects generation has been furnished in the above referred table but the bench/RL of the excavation planning has not been given, which should also be furnished by adding one more column in the table. (iii) The recovery percentage of the iron ore & mineral reject is missing, which should be furnished supported by authenticated recovery test report. (iv) The location co-ordinates of the excavation planning for each year also not furnished and the same may also be given by adding one more column in the table with proper plate reference. (v) The grades of iron ore & mineral reject may also be furnished supported by authenticated chemical analysis report. Accordingly, corresponding incorporations/ modifications may also be made in connected paras in the text & relevant plates. (Page 56 & 57)

(27) DRG No. 1(Key Plan): The details of the deficiencies found on the plate are as follows: (i) The 5km radius of the lease area has not been marked on the plan and also an index reference for the same not furnished. (ii) No colour codes for the features furnished in the index & on the plan portion of the plate has been given. Besides, the index reference given for many of the features are not matching with that of the plan portion of the plate. (iii) Direction of flow of River/nala is missing on the plan. (iv) No separate index reference has been given for reserved forest & other types of forest depicted on the plan portion of the plate. (v) Population of the villages falling within 5km radius of the lease area also not furnished.

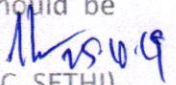
(28) Plate No. 2 (Lease Plan): The plate submitted for lease plan is not clearly legible and the same should be replaced by a fresh and legible copy for ease in monitoring.

(29) DRG No. 7 (Surface Plan): (i) The pillar co-ordinates of all the lease boundary pillars have not been furnished. (ii) At least three permanent ground control points beyond the lease area has not been selected, which should be done. Besides latitude and longitude of those ground control points should be furnished and the ground control points need to be linked with boundary pillars. (II) All existing features such as existing bore holes and other prominent features have not been depicted. Accordingly, necessary corrections/ modifications may also be made in other relevant plates.

(30) DRG No. 9(Geological Plan): (i) As per the Minerals (Evidence of Mineral Contents) Rule,2015, the level of exploration at different stages (G1,G2,G3,G4) and unexplored area should be properly defined in tabular format and the same should be marked on the geological plan. (ii) The exploration proposal covering the entire lease area to the G2 level of exploration should be proposed and the same should be completed within the next three years period. Accordingly, necessary modifications/incorporations may also be made in Geology and Exploration chapter. (iii) Many of the geological features & its lithology have not been depicted. The existing lithology given in the already drilled boreholes are not correctly marked on the geological plan. The plate may be revised suitably. Accordingly, the drawings submitted for geological sections and other relevant plate should also be revised.

(31) DRG No. 11(Geological sections): (i) None of the geological sections are matching with the features shown on the geological plan. (ii) Many of the litho units depicted on the plan are found to be not correct as per their locations. The plates may be revised suitably.

(32) The geo- referenced map of the lease has not been enclosed and the same should be submitted.

  
(G. C. SETHI)

Deputy Controller of Mines