



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. MP/A/07-ORI/BHU/2020-21

Date: 14.07.2020

सेवामे

Shri Vinod Nowal, Nominated Owner,  
M/s JSW Steel Ltd,  
Plot No-468/1075, At- Sundara 13,  
Po- Barbil, Dist- Keonjhar,  
Odisha-758035

विषय: Approval of Mining Plan of Gouna Iron Ore Mine along with Progressive Mine Closure Plan (PMCP), over an area of 88.516 ha (As per DGPS)/ 86.886 ha (As per ROR) in Sundargarh district of Odisha State, submitted by M/s JSW Steel Ltd under Rule 13 of MCR, 2016.

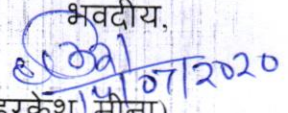
- संदर्भ: - i) Your letter No. JSW/S/O/2020/93 dated 28.06.2020 received on 06.07.2020.  
ii) This office letter of even no. dated 06.07.2020.  
iii) This office letter of even no. dated 06.07.2020 addressed to Director of Mines, Government of Odisha copy endorsed to you.

महोदय,

This has reference to the letter cited above on the subject. The draft Mining Plan along with Progressive Mine Closure Plan (PMCP) has been examined in this office by Shri Ramkishan R, Senior Asst. Controller of Mines & 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 Mining Plan in the light of the contents vide Annexure 1 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)** within 7 (Seven) 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 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 Mining Plan. It may be noted that no extension of time in this regard will be entertained and the 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



Copy for kind information and further necessary action to Shri Satish Mohanty, Shri Satrujit Kumar, Shri Pradeept Mohapatra, M/s JSW Steel Ltd, Plot No-468/1075, At- Sundara 13, Po- Barbil, Dist- Keonjhar, Odisha-758035.

(हरकेश मीना)

क्षेत्रीय खान नियंत्रक

**Scrutiny comments on examination of Mining plan with PMCP of Ganua Iron Block mines over an area of 88.516 Ha in Keonjhar District of Odisha State of M/s JSW Steel Ltd**

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**GENERAL POINTS:**

1. The rule under the mining plan submitted should be furnished as rule 16 (1) of MCR, 2016 and PMCP under rule 23 of MCDR, 2017. Rectify the same in all other relevant places of the document.
2. The name of the block has not been mentioned as per mining lease deed as "Gonua Iron Ore block". Need to do necessary changes at all relevant places in the document.
3. IBM registration number and mine code if allotted should be mentioned on cover page. The extent of lease area 88.516 Ha as per Letter of Intent and DGPS survey should only be mentioned, in the cover page and at all other places in the document. Need to do necessary corrections.
4. All the text, tables and annexures to be properly indexed/ numbered/ paged and signed by qualified person. Correct table reference number to be mentioned at all relevant places. All the certificates/annexures should bear dated signature. All the information on cover page has not been furnished as per the IBM Manual 2014. 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.
5. All the corresponding documents details should be furnished in introduction like right from NIT, MDPA, auction bid details, vesting order, tender document etc., to the lease deed execution with Sate Govt. of Odisha and other Statutory Organization regarding the mining lease auction and subsequent execution have not been submitted along with document as annexures. The final price offer details as per Mineral Auction Rules 2015 should be provided in introduction with documentary evidence as annexure. Present status of all statutory clearances viz., EC, FC, CTO, surface right etc., have not been furnished with referring to documentary evidences as annexures. The second paragraph in introduction of page no.1 is not relevant and may be omitted. Need to do necessary corrections.
6. The details regarding the use of mineral produced from the lease viz., whether the mineral to be used in the lessee's end use industry or will be sold in the open market should be elaborated. It may be described with plant capacity, its location in reference to proposed ROM production and conditions imposed by state government regarding the same in introduction with documentary evidence.
7. In page no.9 it is mentioned as under para 1(b) the term captive category which has to be replaced with suitable term as prescribed by State Government in the relevant document.
8. The copy of the qualification & experience certificate in respect of the three Qualified Persons to be enclosed as per Rule 15 of MCR, 2016. The Identity proof may also be submitted.
9. Lessee is a company. Hence, all certificates, undertakings, consent letter etc. should be signed by the nominated owner only. Extract from the minutes of the Board of director meeting of M/s JSW Steel Ltd with list of Board of Directors, their phone no. address and declaration of nominated Owner to be furnished. Name of the nominated owner should be furnished under name of the applicant. Registration number should also be furnished. Document regarding signature proof of nominated owner should be enclosed as annexure.

**Geology and Exploration**

10. The final geological report along with its plans & sections and annexures, which was vetted by State Government have not been submitted as a separate annexure volume altogether with the document. Particularly, plans and sections have not been submitted. The block summary report also has not been submitted. Need to submit the same as annexure to the document.
11. All the geological information furnished has to be furnished as per the Geological report approved by state government along with documentary evidences. Detailed description of geology of the lease area such as shape and size of the mineral/ore deposit, disposition various litho-units indicating structural features if any etc. has not been furnished. The summary of bore hole drills information regarding the depth of intersection of ore body i.e. depth of top of ore body intersection and floor of the ore body intersections as per bore hole drilled has not been incorporated.
12. As per Rule 22 of Mineral (Auction) Rules, 2015, the holder of a mining lease shall complete detailed exploration (G1 level exploration) and prepare a detailed feasibility study report conforming to Part IV and V of the Mineral (Evidence of Mineral Contents) Rules, 2015 over the entire area under the mining lease, within a period of five years from the date of commencement of such mining lease. Accordingly, it is observed that G1 level of exploration over entire area except areas already explored in G1 level has not been proposed. Need to propose G1 level of exploration over entire area under Mining lease except area already explored under G1 level. Also, considering the lateral extent of maximum 50% of grid spacing of the proposed drill hole points, the area is not fully covered under G1 level of proposed boreholes. Need to modify exploration proposal accordingly. The details of total lease area explored under UNFC levels have to be furnished in the tabular format provided below as on 31st March 2020.



13. The year wise exploration proposal has not been furnished in per the format specified in IBM appraisal of Mining plan 2014. Need to do necessary corrections.
14. Feasibility/Prefeasibility Study report conforming to Part V of Minerals (Evidence of Mineral Contents) Rules, 2015 has not been submitted particularly with reference to Cost and revenue factors such as the derivation of, or assumptions made, regarding projected capital and operating costs, the assumptions made regarding revenue including head grade, metal or commodity price(s) exchange rates, transportation and treatment charges, penalties, etc., the allowances made for royalties payable, both Government and private, Basic cash flow inputs for a stated period, Yearly planned production, Net Present Value (NPV) and Internal Rate of Return (IRR) of the deposit, intrinsic value of the deposit based on annual projected production. The payments to be made under rule 13 of Mineral (Auction) Rules, 2015, final price Offer of 132% have not been taken into account. The economic viability of the deposit is not carried out as per guidelines.
15. Geological sections prepared on natural scale of geological plan at suitable interval across the lease area from boundary to boundary have not been submitted. Therefore, depth of the proposed boreholes should be justified considering the occurrence of ore body at depth both along and across the section lines. Need to submit geological sections conforming to provision of MEMC Rules 2015. Need to do necessary corrections in estimating the proposed depth of boreholes.
16. In the parameters considered for resource estimation, ultimate pit depth proposed has not been mentioned etc. The current survey is dated 07.03.2020 as mentioned in plans and sections. The statement "ore containing less than 45% Fe is considered as mineral waste" is not correct. The reserve and resources have not been re-estimated based on survey after expiry of lease of the previous lessee i.e. after 31.03.2020 as per provision of MEMC Rules 2015. The grade wise (i.e. +55% Fe and +45-55 Fe%) for Iron ore reserves/resources of the lease area have not been re-estimated by cross sectional method based on survey of the lease area after 31.03.2020 and also considering the actual ROM produced by the previous lessee. The revised estimation of reserves and resources should be based on the updated geological plans and sections which were submitted with Geological Report. In the table showing reserve and resources in page 41, the calculation of reserves and resources of iron ore and manganese ore both quantity and grade under various categories of UNFC separately for ore (+55% Fe) and mineral reject grade (45-55% Fe) have not been furnished. The categorization of UNFC furnished has not been justified. Need to submit the justification of UNFC codes as per UNFC guidelines. Justification for recovery factor considered for ore and mineral reject part of ROM along with bulk density test reports have not been submitted.
17. In the table showing reserve and resources in page 34, the estimation of reserve and resource as on date is not mentioned. Calculation of reserves and resources of iron ore both quantity and grade under various categories of UNFC separately for ore (+55% Fe) and mineral reject grade (45-55% Fe) have not been furnished. Need to do necessary calculations.

#### **MINING**

18. The details of existing quarries in terms of their length width, top RL and bottom RL have not been updated based on recent survey after 31.03.2020. All the parameters of existing quarries and dumps should be updates based on recent survey.
19. The year wise in-situ ROM production proposal for iron ore has not been proposed a minimum production level of 1218600 TPA as per the previous approved mining plan as mentioned in mining lease deed. Need to modify production proposal accordingly and revise the development plan and sections and at all relevant places in the document.
20. Justification for site selection for mining during the proposed plan period should be furnished. Proposed method of mining has not been furnished in light of development proposal i.e. annual production capacity, nos. of pits proposed for production, site of waste dump and other mine design parameters. Refer development sections for manganese quarry; the ultimate pit limit has not been marked correctly prevailed on mineralization. Need to do necessary corrections.
21. Conceptual Mine planning should be modified taking into consideration of the revised production from in-situ excavations, available reserves and resources describing the excavation, recovery of ROM, Disposal of waste, backfilling of voids, reclamation and rehabilitation showing on a plan with few relevant sections.
22. List of existing equipment with capacity with proposed new equipment should also be furnished. Machinery calculation should be revised based on the total excavation to be handled. The basis of calculation of furnished powder factors figures should be furnished.
23. In pursuant to the order dated 14.01.2020 passed by MoM, Gol, 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 "regrassing in mining area after closure of mines". Accordingly proposal has not been submitted in conceptual planning, conceptual plan and sections..

#### **STACKING OF MINERAL REJECT/SUB GRADE AND DISPOSAL OF WASTE:**

24. The waste dumping/mineral rejects stack proposals should be in non-mineralized area and outside UPL, If it is within UPL and mineralized area they should be of temporary and proper justification should be given with re-



- handling proposal. The area proposed for waste dumping shall be proved for its non-mineralization through exploration. Accordingly, the priority of drilling has to be proposed so that the area is proved to be barren before overburden dumping. Necessary modification to be done in the text accordingly.
25. Existing as well as proposed protective measures like retaining wall, garland drain, check dams etc., should be furnished in tabular format with details of location, length, dimensions etc., a separate table should be given showing the year wise construction of retaining wall, garland drain and settling tank having specific proposal. Details of year wise proposal for construction of retaining wall, garland drain, settling tank etc. to be given with their location.
  26. The necessary corrections should be made in the relevant plans and sections according to the modified plan of handling of waste and mineral rejects.
  27. The proposed dumping of mineral reject will not be allowed over the existing mineral reject dumps created by earlier lessee within the stipulated time frame as allowed by State Govt. to remove it in favor of earlier lessee as per rule. Need to do necessary corrections..

#### **USE OF MINERAL and MINERAL REJECT**

28. Use of the proposed produced mineral has not been in line with the terms and conditions specified in any of the relevant document by State Government regarding the use of the same. Copy of the same document should be enclosed.
29. Describe briefly the requirement of end-use industry specifically in terms of physical and chemical composition of the mineral with documentary evidence. Give detail of requirements for other industries, captive consumption, export, associated industrial use etc. in terms of physical and chemical composition of the mineral in your case it is by steel plant for captive consumption. Give details of processes adopted to upgrade the ROM with in lease area including mineral reject if any to suit the user requirements i.e. captive steel plant in terms of physical and chemical compositions viz., like beneficiation processes adopted and also efforts for complete utilization of ROM produced from mines in captive steel plant by blending of mineral, in mineral conservation point of view.

#### **PROCESSING OF ROM AND MINERAL REJECTS**

30. The material balance chart has not been furnished. 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 summary of the physical and chemical composition of feed material, grade and quantity along with different output products with physical and chemical composition (with nomenclature of product) should be furnished with recovery percentages.
31. The flow sheets, diagrams, of the existing and proposed plants should be furnished. Water balance flow chart diagram should be furnished. Necessary legible flow sheets and diagram should be submitted.

#### **PROGRESSIVE MINE CLOSURE PLAN**

32. Baseline information of the lease area has not been described as per guidelines. Further, base line information to be furnished for surrounding 500 meter form lease boundary. The monitoring of various environmental parameters as per the relevant statue should be proposed in the core and buffer zone the lease area. The details of monitoring stations should be marked on the environment plan.

#### **PLATES (General):**

33. Lease plan in favor of lessee (M/s JSW Steel Limited) authenticated by competent authority of state government has not been submitted. DGPS survey lease plan as submitted has not been authenticated by competent authority of state government.
34. Plans and sections should be updated based on survey after 31.03.2020. All the tables where figures needs to be recalculated and updated. Need to do necessary corrections at all relevant places in the text and plates annexures and in mine prefeasibility report.
35. The conventions provided under the Metalliferous Mines Regulations, 1961, shall be used in preparing all plans and sections. All plans and sections should comply with the provisions of Rule 32 of MCDR 2017. 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 plans and sections should be signed with date by Qualified Person. Date of observation of Magnetic meridian should be shown in all plans.
36. With reference to CCOM Circular No 2/2010 and its addendum, the geo-referenced mining leases map superimposed on latest high-resolution satellite data has not been submitted.
37. The existing and proposed bench positions clearly with mRL to be mentioned in the all plans and sections.
38. Date of survey should be given on plan and sections and the same should be signed by with date. Grid Lines to be shown in all sections - Geological Sections, Development Sections, Conceptual sections, Dump sections etc.
39. All plans and sections should be signed with date by certified Surveyor, Qualified Person, Mine Manager, Mining Engineer and Mining Geologist



#### Key Plan:

40. The key plan has not been prepared as per the provision of rule 32 (5) (a) of MCDR 2017 particularly the boundaries of all villages and towns with their population, forests with tree density, approach road to lease area, Latitude/longitude of the extreme ML pillar coordinates etc. have not been marked in key plan.

#### Surface Plan:

41. UTM coordinates to be mentioned along with local coordinates along the grid lines. The features shown in the index is not distinguishably shown in the plan. Diverted forest area to be shown in the plan as well as marked in the index of the map. The UPL should be shown over the plan and in index. Necessary corrections to be done.
42. The features shown in the index is not distinguishably shown in the plan. Diverted forest area to be shown in the plan as well as marked in the index of the map. The UPL should be shown over the plan and in index. Necessary corrections to be done. Surface right area and forest, non -forest area, diverted forest area have not been shown. Few boundary pillars should be correlated with some permanent ground features giving distance and bearing/direction. Nomenclature of the existing waste and mineral reject dumps along with fines stack should be mentioned.
43. All the boundary pillars coordinates should be furnished in a tabular format. The Surface Plan should be prepared to satisfy the provision as laid down rule 32 (1) (a) of MCDR'2017.

#### Geological Plan & Section:

44. Geological sections prepared on natural scale of geological plan at suitable interval across the lease area from boundary to boundary have not been submitted. Need to submit the same.
45. 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.
46. mRL should be mentioned on sections. Vertical scale of the sections should be in line with scale of the section. UPL should be shown in geological sections. Need to do necessary corrections.
47. The revised exploration as mentioned should be incorporated in geological plan. The proposed boreholes to be plotted in dotted lines in Geological sections along with proposed borehole number, RL and proposed closing depth at the bottom of the borehole. The year wise proposal for drilling to be shown in different contrasting color in both Geological Plan and Geological sections. The year wise color of the boreholes proposed in Geological plan should match with the plotted proposed boreholes in Geological sections. Longitudinal sections have not been submitted. Need to do necessary corrections.

#### Development plan & Section:

48. Quarry name, existing and proposed year wise bench profiles, waste dump, mineral reject dumps etc. to be shown in the development plans and sections including legend.
49. The lithology of the area should be clearly shown in year wise development plan and sections in the area proposed for development.

#### Environment plan:

50. The Environment Plan as prepared should satisfy the provision as laid down rule 32 (5) (b) of MCDR'2017.
51. The proposed environment protective measures to be shown in environment plan. The drainage pattern of the lease area also to be shown on the plan. Air, water and noise monitoring stations to be shown in the plan. Wind rose diagram should be shown with predominate wind direction.

#### Reclamation plan along with sections.

52. Reclamation plan has not been submitted as per IBM appraisal of mining plan describing the proposals to be implemented for reclamation and rehabilitation of mined-out land including the manner in which the actual site of the pit will be restored for future use. The proposals has not been supported with yearly plans and sections depicting yearly progress in the activities for land restoration/ reclamation/rehabilitation, afforestation, protective measures etc,

#### FA Plan

53. 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 has not been furnished.

*Sudip Ranjan Mazumdar*  
14/7/2020  
(Sudip Ranjan Mazumdar)  
Senior Mining Geologist

*R. Rauli*  
14/7/2020  
(Ramkishan R)  
Senior Asst. Controller of Mines