



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. RMP/A/02-ORI/BHU/2021-22

Date: 09.04.2021

सेवामे

Shri M R Jha, Managing Director & Nominated Owner,  
M/s Neelachal Ispat Nigam Ltd,  
IPICOL House (1st Floor Annexe Building),  
Bhubaneswar-751022

विषय: Approval of Review of Mining Plan of Neelachal Iron Ore Mine along with Progressive Mine Closure Plan (PMCP), over an area of 874.290 ha in Sundargarh & Keonjhar district of Odisha State, submitted by M/s Neelachal Ispat Nigam Ltd under Rule 17 of MCR, 2016.

संदर्भ: - i) Your letter No. Nil dated 25.03.2021 received on 31.03.2021.  
ii) This office letter of even no. dated 31.03.2021.  
iii) This office letter of even no. dated 31.03.2021 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 Review of Mining Plan along with Progressive Mine Closure Plan (PMCP) has been examined in this office based on site inspection carried out on 07.04.2021 by Shri Dayanand Upadhyay, Senior Assistant 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 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 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 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 final 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,  
(हरकेश भोमा)

क्षेत्रीय खान नियंत्रक

Copy for kind information and further necessary action to Shri Sanjib Kumar Swain & Shri Nihar Ranjan Nayak, M/s The Techno Chamber, Plot No.16/5, Cuttack Road, Bhubaneswar-751006.

(हरकेश मीना)

क्षेत्रीय खान नियंत्रक

**Scrutiny comment of Review of The Mining Plan including PMCP in respect of Neelachal iron ore mine, Lease area 874.290 ha of M/s Neelachal Ispat Nigam limited in Sundergarh and Keonjhar district of Odisha State.**

**GENERAL:**

1. On cover page, diversified forest area out of total forest area should be furnished. In introduction chapter, the location of plant and their capacity in view of proposed production capacity should be described in brief.
2. Page-4, it is mentioned that in view of stoppage of NINL steel plant, Ministry of Mines accorded approval for sale of 2 million tonnes iron ore in a period of two years on 10/03/2021. In view of above the letter received from Ministry of Mines and relaxation granted by State Govt. in this regard is to be enclosed in annexure.
3. 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 with list of Board of Directors, their phone no. address and declaration of nominated Owner to be furnished.
4. The experience of qualified person should be clearly stated in supervisory capacity in the field of mining as per provision of rule 15(b) of Minerals (Other than Atomic and Hydro Carbons of Energy Minerals) Concession Rules, 2016.
5. Sequence of para and its numbering as per IBM Manual appraisal MP 2014 should be covered in text. All the headings as mentioned in the IBM Manual appraisal MP 2014 should be furnished in all chapters in the text. All the annexure and text to be properly indexed/ numbered/ paged and signed by qualified person. All the certificates/annexures should bear dated signature.

**GEOLOGY:**

6. Page-15, the topography, drainage pattern, regional geology and structural features of the area have not been described in the line of geological report as discussed during field. All the geological parameters should be furnished as per geological report and copy of the geological report should be enclosed in annexure.
7. Page-17, the deposition of various litho units indicating structural features as furnished in text should be described item wise in brief with their thickness/depth. In the geological section litho contact has not been marked correctly.
8. The lithology shown in the borehole log should be match with the lithology shown in geological plan and sections. The structural information like strike (direction and length), dip, dip-direction etc are to be shown in geological plan.
9. Page 28, rule 12 (4) of MCDR 2017 states that “detailed exploration (G1 level) over the entire potentially mineralized area under the mining lease shall be carried out within a period of five years from the date of commencement of these rules”. Accordingly, it is observed that the exploration proposal proposed till 2022-23 which should be completed by 2021-22. Need to modify the exploration proposal accordingly in text, plates and at all relevant places in the document.
10. The proposal of exploration to be given in following format:

Year	BH no.	Northing	Easting	Collar RL	Core/DTH	Meterage	Inclination	Forest/Diversified forest/non forest	Surface right/ non surface right	Purpose of bore holes

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. The proposed bore holes should be depicted in geological section with their depth and RL for better referencing.

11. Page-33, it is mentioned that during last modification of approved mining plan period lessee has drilled 103 nos. of core drilling and 70 nos. of DTH drilling. However its details are not furnished on page no. 19 & 20 referring cumulative numbers of bore holes drilled year wise. The total depth of bore holes and their RL are not correctly marked in geological plan and not matched with bore hole logs.
12. The area explored under G1/G2...have not been marked as per as per Minerals Evidence of Mineral Contents Rules 2015. The boundary of G1 level of exploration should be marked clearly in geological plan.
13. Page-33, the method of reserve estimation may be further elaborated and justified w.r.t recovery factor, Bulk density, Length of influence, nos. cross sections and bore holes considered in reserve and resource estimation. Necessary supporting documents to be furnished with respect to bulk density and recovery factor.
14. Page no.-34-37, in calculation table of mineral resources under 331 category the word "recovery of ROM" should be replaced with recovery of total ore. Page-37, the mineable reserve as depicted in table is not correctly furnished for +55% Fe. Page-43, Total resources as furnished in table under G1 category is not correct.
15. Considering the threshold value 45% Fe for iron ore, estimation of reserve and resources as carried out are not justified with geological sections. The ore +45% Fe-55% Fe as estimated is not marked in geological sections as per bore holes log. The enhancement of reserve and resources should be properly justified in view of geological report.
16. The reserve and resources has not been furnished as per Minerals Evidence of Mineral Contents Rules 2015. The resources furnished in text under 211 category has not depicted in geological sections. The UPL has not been correctly drawn prevailed on mineralization. The UNFC codes are not clearly furnished in geological sections.

#### **MINING:**

17. Page-46, it has been observed that mining operation is discontinued, therefore existing method of mining should be described in brief with date and reason of discontinuity of mining operation along with status of statutory clearance are to be obtained.
18. Page-47, it is mentioned that as on date no mining activities has been carried out due to want of tree felling permission. However in other part of the text it is furnished that about 54 tonnes of ROM was produced through collection of float ore which is contradictory. It may be clarified.
19. Page-48, proposed method of mining should be furnished in light of justification of sit selection, production capacity, nos. of pits proposed for production, waste dump and other designing parameters to be discussed.
20. Page-49, in insitu tentative excavation year wise top soil generation is not proposed. It may be justified with lithology of the proposed site and bore hole logs. In year wise tentative excavation the name of the block/pits as proposed are to be furnished.
21. In year wise tentative excavation, it is furnished that recovery of saleable ore, mineral reject & intercalated waste are 80%, 5% & 15% respectively of total excavation. Therefore the percentage recovery of the ore, mineral reject & intercalated waste should be justified with the geological report/recovery test from NABL/Govt. laboratory.

22. It has been observed during field inspection that the RL as furnished in year wise development plan are not matches with the development sections and profile of the development sections are not correctly furnished considering the surface contours. All the sections should be re-checked and corrected.
23. In conceptual mining plan, cumulative waste generation and protective measures should be furnished properly. In pursuant to the order dated 14.01.2020 passed by MOM, GOI, 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 "re-grassing in mining area after closure of mines". Accordingly it should be discussed during conceptual period

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

24. Details proposed retaining wall, garland drain, settling tank etc. to be given year wise with their location. Location of mineral reject storage along with year to year development of the mineral reject dumps.
25. It should be ensured that the area proposed for dumping should be proved non mineralized. Therefore exploration proposal priorities accordingly.
26. The proposal of dumping may be given in tabulate format as shown below. The year wise build up of dump should be described in details.

year	Waste to be dumped	Dump No	Location of Dumping (Grid)	Proposed area	Proposed dumping RL	No of terrace proposed	Individual terrace height	Slope of the terrace

**PROGRESSIVE MINE CLOSURE PLAN:**

27. Page-70, Para-8.1, the baseline information should be described properly incorporating buffer zone of the lease area.
28. Updated air, water, noise, ground vibration and soil data with analysis from laboratory done at specified periodicity to be enclosed. Monitoring station of air, noise and water should be described in text and their locations furnished in tabular form. Mitigation measures of impacts associated with mining i.e. mainly related to air, water, noise, vibration, land, aesthetics etc. are not given properly. The same to be elaborated.
29. Year wise plantation covering number of saplings to be planted, location and area covered may be furnished. Matured area of backfilling and dump slope should be stabilized with plantation.

**FEASIBILITY REPORT:**

30. The content of feasibility/pre-feasibility report and analysis of economic viability of the project is not described in detailed as per rule 16 and Part-V of MEMC Rule 2015. The economic viability of the project should be supported with NPV, IRR, Payback period by cash flow chart with cost involved in environmental and others protective measures and clearances, operational cost, administrative cost, infrastructure, royalty, NMET, DMF, closure cost etc.

**PLATES:**

31. The scale in plans and sections are not correct. The scale relaxation to prepare plan and sections other than prescribed scale under the provision of rule 31(1) of MCDR 2017 may be furnished and enclosed in annexure. The lease area as furnished in DGPS plan is differed from lease plan. It may be clarified. An authenticated lease plan is to be submitted.
32. All the plan and sections should be signed with date by certified surveyor, qualified person, mines manager and mining geologist. The plans and sections submitted bear the certificate that --the plans and sections are prepared based on the lease map authenticated by the state government.

33. All plans and sections shall show a scale of the plan at least twenty five centimeters long and suitably subdivided. All plans & sections prepared shall follow the sign conventions mentioned under MMR 1961.
34. The UPL should be shown in red color in all relevant plans and sections. Magnetic Meridian with declination and date of observation of should be given on all relevant plans. Approach road to the ML to be shown. Wind direction may show through wind rose diagram in key plan and environmental plan.
35. The CCOM circular no.2/2010 and its addendum should be implemented. The lease area as furnished in DGPS plan is not matched. It may be clarified.
36. **Key Plan:** 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.
37. **Surface Plan:** In surface plan forest area and non-forest area are not marked correctly and not matched with DGPS plan/ lease plan. Few pillars may be correlated with some permanent ground features giving distance and direction. Forest & Non forest area, Surface right acquired area etc. should be marked clearly.
38. **Geological Plan & Section:** The bore holes data have not been correctly in geological sections and not matched with the bore hole logs as submitted. Data related to strike, dip, dip-direction etc. shown on the geological plan clearly. The resources furnished under 211 category are not justified with the geological sections. The UNFC codes are not correctly furnished and UPL are not correctly drawn prevailed mineralization. The total depth of the bore holes as furnished in sections are to be re-checked and corrected. The Proposed bore holes with their depth should be marked in sections. Some of the indexes are missing, it should be re-checked.
39. **Development plan & Section:** The development plan and sections are not matched each other. The profile of the development sections are to be corrected as per the surface contours as discussed during field visit. Proposed RL of benches/dumps should be mention clearly in development section. Retaining wall and garland should be marked clearly year wise with color codes. UPL should be shown in red color.
40. **Environment plan:** The Environment Plan as prepared should be satisfy the provision as laid down under rule 32(5) (b) of MCDR2017. The drainage pattern of the lease area is to be shown on the plan. Contours should be shown in core zone.
41. **Reclamation Plan:** Proposals of land restoration/reclamation/rehabilitation, afforestation, waste dump management etc should be depicted in Reclamation Plan year wise with different color codes. The proposed retaining & garland wall, settling pond should be furnished.
42. **Conceptual plan:** Conceptual plan and section may be prepared considering mineralization as revealed from the borehole logs. Direction of run off from the area based on surface contours may be shown on the plan and the sections.