



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



REGD WITH A/D

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Plot No.149, Pokhariput
BHUBANESWAR-751020

No. MRMP/A/04-ORI/BHU/2020-21

Date: 22.05.2020

To

Smt. Indrani Patnaik, Mine Owner,
Village- Unchabali, PO-Bamebari,
Barbil, Dist- Keonjhar,
Odisha-758034

Sub: Approval of modification of Review of Mining Plan of Unchabali Iron & Mn Mine along with Progressive Mine Closure Plan (PMCP), over an area of 106.1127 ha in Keonjhar district of Odisha State, submitted by Smt. Indrani Patnaik under Rule 17(3) of MCR, 2016.

Ref: - i) Your letter No. IP/MM/March/2020/013 dated 06.05.2020 received on 08.05.2020.
ii) This office letter of even no. dated 08.05.2020.
iii) This office letter of even no. dated 08.05.2020 addressed to the Director of Mines, Govt. of Odisha, copy endorsed to you.

Sir,

This has reference to the letter cited above on the subject. The draft of modification of Review of Mining Plan along with Progressive Mine Closure Plan (PMCP) has been examined in this office based on earlier site inspection carried out on 27.12.2019 by Shri Dayanand Upadhyay, Senior Assistant Controller of Mines as fresh inspection could not be undertaken due to lock Down for COVID-19. 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 or JPG format in resolution of 100x100 pixels on same CD)** with financial assurance under Rule 27 of MCDR 2017 of the Modification of 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 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.

Yours faithfully,

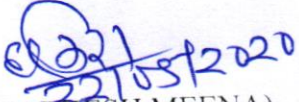
व/ल

(HARKESH MEENA)

क्षेत्रीय खान नियंत्रक / Regional controller of Mines

Copy for kind information and further necessary action to Shri A. Gurubalasubramaniam, Qualified Person, Unchabali Iron & Mn Mine, Village- Unchabali, PO-Bamebari, Barbil, Dist- Keonjhar, Odisha-758034.

OK



(HARKESH MEENA)

क्षेत्रीय खान नियंत्रक / Regional controller of Mines

N.O.O:

Copy for kind information to the Controller of Mines (EZ), Indian Bureau of Mines, CP-13, Sector V, Salt Lake City, Kolkatta- 700 091.

OK


(HARKESH MEENA)

क्षेत्रीय खान नियंत्रक / Regional controller of Mines

Scrutiny comment of Modification of Review of Mining Plan including PMCP in respect of Unchabali Iron & Manganese mine, Lease area 106.1127ha. of Smt Indrani Patnaik in Keonjhar district of Odisha State.

GENERAL:

- I. In introduction chapter history of the mines should be described along with execution of supplementary lease deed in light of MMDR (Amendment) Act and 2015 documentary evidence marked with annexure.
- II. Para-3.3, Page 10-12, the review of earlier approved proposal for the year 2018-19 and 2019-20, an updated figure should be furnished along with proper justification of shortcoming in remarks column.
- III. 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.
- IV. The annexures as marked in text are not indexed accordingly. All the annexure to be properly indexed/ numbered/ paged and signed by qualified person. All the certificates should bear dated signature.

GEOLOGY:

- I. The lithology shown in the borehole log should match with the lithology shown in geological plan and sections. The structural information like strike, dip, dip-direction etc are to be shown in geological plan.
- II. Page-22, the deposition of various lito units indicating structural features as furnished in text should be described item wise in brief.
- III. In page 27, Para (iii), the details of the sample analysis indicating type of sample should be given in tabulated format and nos. of sample analysis from NABL/Govt. lab out of total sample should be furnished alongwith annexure.
- IV. Page 32, the complete lease area should be proposed to cover under exploration under G1 level upto end of mineralization as per provision of rule 12(4) of MCDR2017. The proposal of exploration 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											
2											

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.

- V. The proposed bore holes should be depicted in geological section with their depth and RL for better referencing.
- VI. The area explored under G1/G2....should be furnished as per as per Minerals Evidence of Mineral Contents Rules 2015.
- VII. The drilled bore holes as depicted in geological plan have not been furnished with their complete bore hole logs. The bore hole logs of BH4/16, 5/16, 6/16...are missing. The relevant forms of intimation of all bore holes should be submitted along with borehole logs as annexures.
- VIII. The litho profile of geological sections are not matched with geological plan. In geological GG', float ore is not shown. The litho profile of geological section between grid 337700 to 337900 shale is shown while in geological plan BHJ/BHQ is shown. The Bore hole 27/15 as projected in section is not shown in plan. All the geological sections should be re-checked and corrected.
- IX. The bulk density and recovery factor considered for calculation of reserve/ resources is not matched with the analysis report of bulk density and recovery factor as submitted in annexure.
- X. The reserve and resources has not been furnished as per Minerals Evidence of Mineral Contents Rules 2015. In calculation of reserve and resources enclosed at annexure-XIII, different grades of ores as furnished in calculation are not clearly shown in geological sections.

MINING:

- I. Page-40, existing method of mining should be described in brief. Proposed method of mining should be furnished in light of development plan i.e production capacity, nos. of pits proposed for production, waste dump and other designing parameters to be discussed.
- II. Page-41, the existing sub grade stack and ore stacks as furnished are not updated. The average grade of sub grade stack should be furnished and their analysis report is to be enclosed in annexure. All the existing stacks as furnished in the document should be matched with monthly returns submitted to this office in terms of quality and quantity.
- III. Insitu tentative excavation of ROM has been proposed from 2020-21. However in list of annexure it is mention 2019-20. It may be corrected.
- IV. In development plan and sections the proposal furnished in same color for the year 2021-22 and 2022-23. The year wise proposal should be distinct color.
- V. Bore holes have not been depicted in development section. Different types of ores and others geological information encountered through bore holes to be depicted clearly in development sections.
- VI. Back filling proposal as furnished in development plan has not been explained text. Exhausted area to be backfilled by OB/Waste to be specified with RL and area on year to year basis with description of the method & manner of disposal of waste.
- VII. Before backfilling of the quarry as proposed, it should be ensured the exhaustion of ore body in terms of their depth & extension in the interest of mineral conservation. It should also be ensured that during backfilling original sequence of lithology of the lease area to be maintained.
- VIII. In conceptual mining plan, the life of mines has not been furnished correctly. Cumulative waste generation and backfilling and protective measures should be furnished properly. Restoration of safety zone, dead dump and slope of the dump may describe properly.

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

- I. Page-74, the existing mineral reject dumps should be furnished below alongwith analysis report.

Name of Dump	Location (Grid)	Length(m)	Width(m)	Area Occupied	Total volume (cu.m)	Total quantity(T)	Grade

- II. The extent/location of the proposed dumps to be given also mentioned whether within UPL or not. Also give the details of the existing dumps (top soil, waste dump, mineral reject dump) within the lease area in tabulated form comprising dump number, designed capacity, present quantity, remaining quantity, bottom RL and top RL.
- III. Details Existing and proposed retaining wall, garland drain, settling tank etc. to be given yearwise with their location. Location of sub-grade storage along with year to year development of the SG dumps to be given.
- IV. It should be ensured that the area proposed dumping should be proved non mineralised. The proposed location of mineral reject should be furnished with terraces to minimize the land degradation. The details of mineral reject dumps and their analysis report should be submitted and discussed for their future use on the basis of their physical and chemical properties.
- V. 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:

- I. Page-93, Para-8.1, the baseline information should be described properly incorporating buffer zone of the lease area.
- II. Monitoring station of air, noise and water should be described in text and their locations furnished in tabular form.
- III. Updated air, water, noise, ground vibration and soil data with analysis from laboratory done at specified periodicity to be enclosed.
- IV. Under impact on land, cumulative land degradation at present, at the end of proposal period and at the end of conceptual period may be given referring to conceptual mining plan.
- V. 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.
- VI. 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.

PLATES:

- I. 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.
- II. 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.
- III. Wind direction may show through wind rose diagram in key plan and environmental plan. Approach road to the ML to be shown.
- IV. Existing and proposed bench RL to be mentioned in the all plans and sections. The UPL should be shown in red colour in all relevant plans and sections. Magnetic Meridian and date of observation of should be given on all relevant plans. Approach road to the ML to be shown.

Surface Plan: Few pillars may be correlated with some permanent ground features giving distance and direction. Different land use may be shown with colour codes. Virgin area is to be shown by contours and spot RL in surface plan. Forest & Non forest area, Surface right acquired area etc. should be marked clearly. All the mineral reject dumps, mineral stacks, OB dumps should clearly notified with nos. and their RL.

Geological Plan & Section: Data related to strike, dip, dip-direction etc. shown on the geological plan clearly. In the Geological Plan UNFC boundaries of G1, G2 .. area are to be demarcated as per MEMC Rules 2015. The Proposed bore holes with their depth should be marked in sections. Some of the indexes are missing, it should be re-checked.

Development plan & Section: The year wise development proposal should be furnished in distinct color. Existing and proposed RL of benches/dumps should be mention clearly in development plan and section. Retaining wall and garland should be marked clearly yearwise with colour codes. UPL should be shown in red colour. Backfilling area depicted yearwise in different colour with their RL.

Environment plan: The Environment Plan as prepared should be satisfy the provision as laid down under rule 32(5) (b) of MCDR2017. The proposed and existing environment protective measures to be shown in environment plan. The drainage pattern of the lease area to be shown on the plan. Contours should be shown in core zone.

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.