



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 MPM/FM/19-ORI/BHU/2018-19

दिनांक / Date: 31.07.2018

To

Shri Prasanna Kumar Panda,  
Constituted Attorney, M/s Essel  
Mining & Industries Limited,  
At/Post- Barbil, Dist-Keonjhar,  
Pin-758035, Odisha.

Sub: Approval of Modification of Mining Plan of Koira Iron Mines over an area of 90.143 ha in Sundargarh district of Odisha of M/s Essel Mining & Industries Limited submitted under Rule-17 of Minerals (Other than Atomic and Hydro Carbons Energy Minerals) Concession Rules, 2016.

Ref: - i) Your letter no. EMIL/GEOL/212/2018-19 dated 05.07.2018 received on 09.07.2018.  
ii) This office letter of even no. dated 09.07.2018.  
iii) This office letter of even no. dated 09.07.2018 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 Mining Plan along with Progressive Mine Closure Plan has been examined in this office based on site inspection carried out on 18.07.2018 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 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 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 Mining Plan. It may be noted that no extension of time in this regard will be entertained and the Modification 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 V. Srikanth and Shri Khageswar Mahanta, Qualified Person, M/s Essel Mining & Industries Limited, At/Post- Jajang, Dist-Keonjhar, Pin-758034, Odisha.

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

**SCRUTINY COMMENTS ON EXAMINATION OF MODIFICATION OF MINING PLAN & PROGRESSIVE MINE CLOSURE PLAN FOR KOIRA IRON ORE MINE OF M/S ESSEL MINING & INDUSTRIES LTD., OVER AN EXTENT OF 90.143 HECTARES, LOCATED IN VILLAGES KOIRA, NUAGAON, KADODIHI & HARISCHANDRAPUR, UNDER BONAI SUB-DIVISION OF SUNDARGARH DISTRICT OF ODISHA STATE, SUBMITTED UNDER RULE 17(1) OF MCR, 2016 & 23 OF MCDR, 2017.**

(1) On examination of the front cover, it is found that, the document has been submitted for modification of mining plan, under Rule 17(1) of MCR, 2016, instead it should have been submitted under Rule 17(1) of MCR, 2016. Besides, on verification, it is found that, the lease is valid upto 26.08.2021, thereby the modification of the mining plan should be submitted for the period from 2018-19 to 2020-21 upto 26.08.2021 instead of 2018-26.08.2021. Accordingly, necessary modifications / incorporations may also be made at other places in the document.

(2) In the consent letter /undertaking /certificate from the applicant, the modification of mining plan has been submitted under rule 17(1) of MCR, 2016, instead the same may be mentioned under rule 17(3) of MCR, 2016 & the consent letter /undertaking /certificate should be revised accordingly.

(3) The MoEF clearance for production of 4 million tonnes of iron ore has been enclosed as annexure-06, whereas the production proposal of 6 million tonnes for 2019-20 & 2020-21 (upto 26.08.2021) has been furnished in the text part of the document even though the MoEF clearance is restricted to 4 million tonnes, thereby the revised MoEF clearance at enhanced proposed production to be submitted.

(4) One number of site specific WL conservation plan is stated to be enclosed along with the enclosed annexure-9 but no such plan is found enclosed along with the document.

(5) The details of borehole logs are enclosed as annexure-16 but at least 10% of the borehole logs analysis from 3<sup>rd</sup> party NABL has not been submitted.

(6) The bulk density test report for different type of iron ore from Earth & Environment Laboratory has been enclosed as annexure-20 but the NABL scope of accreditation submitted in favour of Earth & Environment Laboratory has already expired, thereby the valid NABL accreditation should be submitted. Likewise, the NABL accreditation certificate in favour of Mitra S.K Private Ltd. has not been submitted in support of the bulk density test report & analysis report for the grades of sub-grade and waste dump furnished by them.

(7) The environmental monitoring report for the months of January 2018 to March 2018 for B.S. Envi-Tech Pvt. Ltd., has been enclosed as annexure-21, instead, the same atleast for last four quarters analysed through any of the NABL Accredited laboratory or from Govt. laboratory should be submitted replacing the enclosed one for ease in monitoring.

(8) The copy of the explosive procurement license issued by the competent authority in favour of M/s Essel Mining & Industries Ltd., has not been enclosed. Besides, a copy of the blasters license issued by the competent authority for carrying out blasting operations may also be submitted.

(9) The chemical analysis report of iron ore samples has not been enclosed and the same should be obtained either from a NABL accredited laboratory or from a Govt. laboratory & enclose along with the document.

(10) The number of years for which professional experience claimed by both the qualified persons are not supported by documentary evidences, thereby the same may be submitted. [Para 1.0(f)]

(11) The proposed & actual achievements of plantation for the years 2016-17 & 2017-18 has been furnished in 2<sup>nd</sup> table given in the para under reference but the location co-ordinates of such plantation is missing, which should be furnished in the table with proper plate reference for ease in monitoring. [Para 3.3(iii)]

(12) During the years 2005-06, 2007-09, 2014-16 & 2017-18, there are 127 nos. of boreholes were drilled but the borehole logs & analysis report in support of such holes has not been enclosed, which should be submitted. Besides, the extent of lease area already explored by putting the boreholes may also be indicated. Accordingly, necessary modifications /incorporations may also be made in connected paras in the text with proper plate reference. [Para 1.0(e)(ii)]

(13) All the samples from the boreholes were mentioned to be analysed with different NABL accredited laboratories but no such analysis report has been enclosed as referred annexure-20 and the same should be submitted. [Para 1.0(e)(iii)]

(14) The entire area to be explored atleast upto G2 level in accordance to the Minerals (Evidence of Mineral Contents) Rules, 2015. Further, details of exploration to be furnished in the 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. The same may also be depicted on the plate submitted for Geological plan. [Para 1.0(h)(i)]

(15) Grade wise reserves & resources as on 01.04.2018 has been furnished in tabular form but the calculation in support of such reserves/resources has not been furnished, which should be computed considering the following:- (i) Up to what depth, the resources have been estimated is not known & the same has not been linked with the borehole analysis report of the individual boreholes in the particular grids. (ii) The recovery of iron ore percentage from ROM is not explained, which should be supported by an authenticated recovery test report from NABL accredited laboratory with valid scope of accreditation for iron ore. (iii) No authenticated analysis report for the grades of the resources/reserves indicated in the page under reference. In view of the above, it is found that, the reserves/resources 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. (Page No. 19, 35 & 36)



(16) Existing method of mining has not been furnished in detail as per the heading of the para, which should be discussed, including the existing status of dump, reclamation, rehabilitation & afforestation etc. for more informative. Besides, the proposed method of mining may also be discussed by giving proposed bench formation status both in overburden & in ore zone, dumping, reclamation & rehabilitation etc. for clarity. If the existing quarries are proposed to be developed /extended, the same may also be furnished. In the light of the above; the entire para may be revised. [Para 2.0(A)(a)]

(17) Under the heading sequence of mining operations the capacity of the excavator has been furnished in tonnes and the same may also be furnished in m<sup>3</sup> also. Accordingly, the connected data furnished in page no. 42 may also be revised accordingly. (Page No. 38)

(18) In the table furnished, under the heading **Insitu Tentative Excavation:** The following observations are made: (i) The proposed generation status of OB/SB/IB, ROM & sub-grade has been furnished in tabular form but the bench/RL of the excavation planning has not been given, which should also be furnished. (ii) The recovery percentage of iron ore, mineral reject, sub-grade & waste/overburden generation is missing. (iii) 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. (iv) The grades of iron ore, mineral reject, sub-grade material and the OB/waste 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. [Para 2.0(b)(I)]

(19) The location co-ordinates of the proposed workings should be furnished indicating the direction of advancement of quarry faces. Besides, the height, width & length of individual benches may also be furnished indicating the bench specifications/parameters for each year of the mine development. The status of dump for waste and sub-grade materials/mineral rejects & the location co-ordinates proposed for the same with size/capacity and direction of advancement may also be discussed. Moreover, the requirements of reclamation & rehabilitation may also be furnished. In the light of the above, the information furnished in para 2.0(e) may also be revised. [Para 2.0(d)]

(20) In the 1<sup>st</sup> table furnished in the page under reference, the existing land use as on 01.07.2018 has been furnished, instead the same as on 01.04.2018 and for the each year of the modification period is required to be submitted and the table may be revised accordingly. (Page No. 47)

(21) The existing status of waste dump & sub-grade dump has been furnished in 1<sup>st</sup> table given in the para under reference but the location co-ordinates of such dumps are missing, which should be furnished and the table may be revised accordingly. [Para 4.0(a)]

(22) In the 2<sup>nd</sup> table furnished in the para under reference, the quantities of waste materials proposed for backfilling has been furnished but the location co-ordinates and extent of such backfilling is missing, which should be furnished for more informative. Reclamation should be carries out maintaining original sequence of lithology. [Para 4.0(a)]

(23) The end use specification is given for the Fe grades 58 to 62%, whereas, the reserves have been estimated for the Fe grade upto 51%Fe. Thus, certain quantities of production proposed from the mine are suspected to be non-salable. Therefore, the end use specification should be revised suitably. [Para 5.0(a)]

(24) It is found that both lumps and fines of iron ore is proposed to be produced from the mine but nothing has been mentioned about the percentage generation of lumps and fines, which should be mentioned and the para may be revised accordingly. [Para 5.0(c)]

(25) The flow sheet for the screening/crushing unit has not been given and the same should be furnished. [Para 5.0(e)]

(26) In the table furnished in the para under reference, the present land use & the land use by end of the plan period has been furnished; instead the same by end of each year of the modification period should be furnished. (Para 8.2)

(27) Block wise/quarry wise extent of area proposed to be degraded in each year of the ensuing modification period should be furnished. Besides, block wise/ quarry wise extent of area utilized for dumping, reclamation, rehabilitation & afforestation for each year of the aforesaid period may also be furnished. All should be furnished in tabular form and rest of the things should be erased. (Para 8.3.1)

(28) In volume-III, the contents for list of plates/drawings have not been mentioned, which should be furnished.

(29) Drawing No. I (Key Plan): The details of the deficiencies found on the plate are as follows: (i) Single index reference is given for mettaled /un-mettaled roads, instead two separate indexes for the same should be furnished. Accordingly, the feature for different types of road may also be depicted on the plan portion of the plate. (ii) Direction of flow of River/nala is missing on the plan portion of the plate. (iii) The index reference given for reserved forest is not matching with that of the plan. (iv) Population of the villages falling within 5km radius of the lease area also not furnished in the plan portion of the plate.

(30) Lease Plan: There are 4 nos. of plates viz. A to D has been submitted along with the document but the same has not been numbered for ease in identification.

(31) Drawing No. III (Surface Plan): (i) The index reference given for boreholes are for existing ones or for proposed ones to be specified. If the holes are existing, then the the same should be marked with colour red. (ii) The pillar co-ordinates of all the lease boundary pillars have not been mentioned, which should be furnished. (iii) Atleast 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.

(32) Drawing No. IV (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 maximum upto 300m depth should be proposed, where the ore body has not been terminated and the same should be completed during 2018-19. Accordingly, necessary modifications /incorporations may also be made in Geology and Exploration chapter & any other places of the document.

(33) Drawing No. V (Geological Sections): The geological index given in the geological sections are not matching with that of the geological plan, thereby the indexing as well as the lithology for sections should be revised in such a way that, the same will match with the geological plan.