

Scrutiny comment on Modification of Approved Mining Plan including PMCP in respect of Jajang Iron Ore Mine of M/s Rungta Mines Limited over an area of 666.150 Hectare in Keonjhar district of Odisha State.

Date of Inspection: 08.06.2016

GENERAL:

- (1) In introduction chapter, page no. 1, the rule position mentioned as 22(3) of MCR, 2016 for extend period of lease i.e. up to 31.03.2020 seems to be wrong. Verify and rectify.
- (2) Page 2: The letter number and date mentioned for CTO is not matched with the annexure submitted. Verify and rectify.
- (3) Page 4: It is mentioned that "undertaking of all the directors are enclosed as annexure-19". However, on verification it is observed that no such undertaking has been enclosed. Undertaking from all the directors to be enclosed.
- (4) Self-attested copies of qualification & experience certificates as required for qualified person to prepare mining plan under MCR'2016 should be enclosed.
- (5) UTM coordinates as per WGS 84 of all the boundary pillars to be given in table presented on page number 6.
- (6) Period for which Mining Plan, Scheme, modification etc. approved is to be mentioned in table presented on page number 8.
- (7) The status of the lessee, whether, private company, public limited company, partnership firm etc. to be mentioned in para 1.b.
- (8) The lease range to be mentioned in Latitude and Longitude i.e. degree, minute, second as well as in UTM coordinate.
- (9) The extent and nature of surface right being held by the Lessee to carry out various mining activities be indicated with documentary evidence.
- (10) Grammatical mistakes are found to exist at many places, which need to be corrected.

GEOLOGY & RESERVES:

- (11) 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. to be given.
- (12) Page 20: Email address and name of the director of the exploration agency may be mentioned in the table.
- (13) The details like number of BH drilled, number of samples generated, analyzed, number of check sample etc. may be given in para e (iii).
- (14) Total mineralized area to be mentioned on the basis of geological mapping and exploration carried out in lease area.
- (15) The bulk density 2.5 T/m³ considered for resource estimation seems to be in lower side. Justification for same to be given with documentary evidence.
- (16) Grade of reserve and resource mentioned in page 34 is not specific. +45% Fe might be considered as 70% Fe. Hence it must be specific.

MINING:

- (17) In view of systematic, scientific mining and progressive closure of Mine; pit excavation proposal should be made from one end of deposit and progressing towards other end along with simultaneous closure at the other end. In view of this proposal of backfilling may be revised.
- (18) Table 5.21: Existing fleet of machinery to be mentioned in table.

- (19) It is mentioned that a study on “deep hole blasting for determining the ground vibration and Noise are measured by CIMFR and UES new Delhi”. The report of same to be enclosed.
- (20) **Conceptual plan:** The details of ultimate pit may be given i.e. length, width, top and bottom mRL, number of benches etc. Similar information of ultimate waste dump, sub-grade dump and mineral rejects may be given.
- (21) The quantity of Sub-grade to be generated during conceptual period and its utilization and future planning for beneficiation may be given.
- (22) **Mine Drainage:** A drainage plan may be submitted showing the drainage pattern of the lease area, catchment area and final discharge point of surface water during rainy season.
- (23) **Waster Usages:** The details like total water requirement in lease area, consumption for domestic purpose, existing and proposal for rain water harvesting, Use of stored water collected through rain water harvesting, total ground water withdraw, recycling of ground water, water treated through STP etc. to be given.

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

- (24) Build-up of dumps from year to year to be mentioned in text w.r.t. designed capacity of dumps, bottom and top mRL of individual terrace, dump slop, individual terrace height and slope with description of method & manner of disposal of waste should be mentioned.
- (25) Location of sub-grade storage along with year to year development of the SG dumps to be given.
- (26) Details Existing and proposed retaining wall, garland drain, settling tank etc. to be given with their location. The proposal given for construction of retaining wall, garland drain seems to be insufficient in view of proposed spread of the waste dump. Hence, may be verified and revised proposal to be given.

PROCESSING OF ROM AND MINERAL REJECT:

- (27) Page 107: As mentioned on page location of proposed dry screening and crushing plant needs to be shown in relevant plan.

PROGRESSIVE MINE CLOSURE PLAN

- (28) It should be clarified that base line data collected & assessment done by which agency, period of data collection & assessment and whether it is conforming to the norms of MoEF.
- (29) 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.
- (30) **Disaster Management and Risk Assessment:** Briefly describe about emergency plan proposed for quick evacuation or measures to be taken during high risk accidents like landslides, subsidence flood, inundation in underground mines, fire, seismic activities etc. The capability of lessee to meet such eventualities and the assistance to be required from the local authority may also be described. The name of officials along with telephone number may be given; responsible to take appropriate action during such eventualities.
- (31) Financial assurance as per table 11.18 to be submitted for extended period of lease.

FEASIBILITY STUDY REPORT:

- (32) Proposed and actual capital expenditure to be given. Detail calculation of cost of production/operating cost to be given.
- (33) In the UNFC Pre-feasibility study: Economic evaluation of the project is not carried out properly. Thus following important parameters are to be dealt with:-

- a. Assessment of IRR (Internal Rate of Return) and NPV for the project life.
- b. IRR based on operating cost, reclamation/ rehabilitation cost, closure cost and other important parameters as per UNFC guidelines for the life of the project on the basis of ore body geometry, i.e., depth, width, length etc. as estimated and considered for reserve/ resource estimate.
- c. Cash flow statement for the period considered for assessment of IRR.
- d. Sensitivity analysis on cash flow due to market changes, i.e., cost of operation, sale price etc.
- e. Market assessment has not carried out properly; it should include demand and supply, consumption trend and factor likely to affect the demand and supply into the future.

PLATES:

- (34) **General:** All plans and sections should be signed with date by certified Surveyor, RQP, Mine Manager, Mining Engineer and Mining Geologist as per provisions of Rule 30 of MCDR, 1988 and Rule 66 of MMR, 1961.
- (35) **Surface Plan:** Information of surface drainage system may be furnished on surface plan/geological plan etc. Along with UTM coordinates, Latitude and longitude of all ML boundary points should be mentioned on surface plan as well in the text. Further, DGPS map from ORSAC to be submitted.
- (36) The length and width of quarry mentioned on page number 21 and other pages to be shown on the surface plan.
- (37) SG7 has been depicted twice in Surface plan and other plan. Further, MUC-29 has not been shown. Verify and rectify.
- (38) **Geological Plan & Section:** Are explored under G1, G2 etc. level is not properly visible in plan. Direction along which geological section have been drawn to be depicted on the sections. The color code/hatching used to display various lithology are not distinguishable, need to be reviewed.
- (39) The color code for all the litho unit as shown in plan and section should be same. Further, exploratory BH drilled during last scheme period may be shown in different color code.
- (40) Data related to strike, dip, dip-direction etc. shown on the geological plans are inadequate. Some more data may be shown to understand the geology of the area.
- (41) **Development plan:** Each year development proposal to be shown in different color. Composite development plan and section to be submitted.
- (42) Existing bench mRL to be mentioned in the development sections and geo section.

ENCLOSURE

- (43) Copy of all the violation letter and its compliance letter during last scheme period to be enclosed.
- (44) Copy of Exploration contract given to exploratory agency along with invoice to be submitted.
- (45) Withdrawal of ground water of 600m³/day permission of State Govt. to be enclosed.

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