



MODIFICATIONS PROPOSED IN THE APPROVED MINING PLAN
OF KURMITAR IRON ORE LEASE (651.00 Ha.)

APPLICANT: THE ODISHA MINING CORPORATION LTD.
RQP : MECON LIMITED



10. MINERAL PROCESSING

i. As per approved mining plan vide approval letter No.BBS/SG/Fe&Mn/MP-272 dated 10.03.2006 & subsequent approved mining scheme vide approval letter No.314(3/2009-MCCM(CZ)/MS-42 dated 06.04.2010

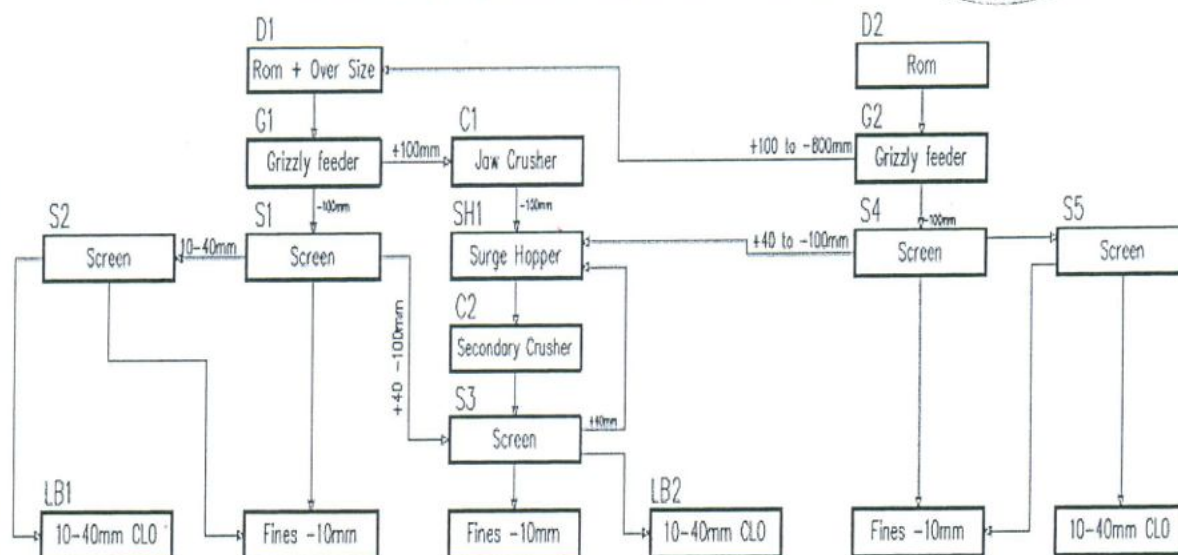
The ROM ore produced from the mines will be transported by 20 tonne dumpers to the processing yard. The ROM ore will be broken, sized by the crusher to segregate the iron ore into two different marketable grade stacks. The size of the ore will be reduced to + 5mm to- 18 mm and +10mm to -30 mm size by crusher. It is proposed to use a mobile crusher with capacity of 225 TPH. After the stacks are built up of required size and height, will be sampled and assayed to ascertain its grade. Depending upon the grade of the stacks, the materials will be transported to end use point for sales.

Water sprinkling has been proposed at all exit points where finished products are proposed to be dumped after crushing and at some intermediate points of the conveyor belts to suppress dust at crusher site. For noise control, all pulleys and idlers of the conveyor belt will be well lubricated. Motors will be well maintained and labourers will be provided adequate amount of ear plugs. In the crushing and screening plant the screen will be mounted on multiple helical spring units to isolate vibration transmission to supporting structure thus eliminating structure born vibration and noise. The crusher will have independent block foundation isolated from other supporting structure. Crusher internal elements will be covered by casing to reduce transmission of impact noise. The crusher will be housed to contain noise. Green belt will be developed around office building, crushing and screening plant to reduce noise exposure level.

Modification Proposed

For the year 2014-15 to 2015-16, one 800 tph capacity stationary crushing and screening plant has been proposed. Subsequently, from the year 2016 onwards another line of 800 tph stationary crushing and screening has been envisaged. The ROM from mine will be transported by dumpers to the dump hopper of screening plant. ROM from dump hopper will be fed through a grizzly feeder and -100mm will be separated through grizzly and taken to screen where -10mm, 10-40mm and 40-100mm will be separated. -10mm will be carried through a conveyor and stock piled. 10-40mm will be taken to another screen through a conveyor where 10-40mm CLO will be rescreened again in order to remove sticky fines particles. +100-800mm will be taken to dump hopper of crushing plant. Since the oversize material +100 to -800mm from the screening plant is not sufficient for the crushing system, balance required quantity lumpy ROM from mines will be fed into dump hopper. Grizzly feeder will feed +100 to -800mm material to jaw crusher. From jaw crusher crushed material will be taken to surge hopper and from hopper material will be carried to secondary crusher. +40-100mm from screen will be carried through a conveyor to surge hopper. In secondary crusher material will be crushed below -40mm and carried to another screen where -10mm will be separated and stock piled and 10-40mm CLO will be taken to truck loading bunker. +40mm material from screen will be carried to surge hopper. The CLO & fines generated after screening the crushed product will be loaded by loader and transported through dumpers to the respective stockyard. A tentative flow sheet of proposed crushing and screening plant is given below. In addition to this, one existing 225TPH crushing and screening plant will also be maintained to meet the incidental break down and achieve the target. Existing process flow-sheet of 2 stage crushing & screening facilities is given in annexure 26.

Proposed 2-Stage Crushing and Screening Facilities



Mechanical Evacuation System for Fines

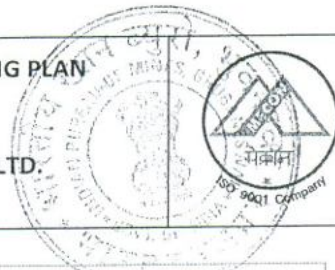
A new mechanical evacuation system has been planned to be commissioned by the end of yr 2015-16. After detailed survey of the area around the Kurmitar mine, it has been finalized to lay a two-line conveyor belt system from the area which starts from joining line of broken pillar no-21& 22, towards south of OMC lease to Mahuldiha village site (located in Ruguda Gram Panchayat of Bonai Block of Sundergarh district). The length of the conveyor belt will be approximately 17 Km. The Termination point of the conveyor belt at Mahulidiha village site is about 2.0 Km from road (SH-10A) and 1.0 Km from the proposed Talcher- Bimlagarh railway line. Iron ore of Kurmitar Iron Ore mines shall be transported downhill to the Termination Point by the conveyor belt from where it will be sold to different buyers who will transport the sold iron ore to their destinations either by road or rail.

The said conveying system shall be housed inside a fully covered (by G.I sheet) structural steel Galleries supported by steel trestles at suitable intervals. These trestles shall be supported by reinforced concrete (RCC) pedestals and foundation. All galleries shall be designed to accommodate maintenance walkways with clear headroom above floor level with provision for floor gratings or chequered plates. Wherever transfer towers, mainly at each turning point of conveyor line, would be required and the same shall be made with steel structures supported on RCC pedestals and foundations. Floors of all Transfer Tower shall be provided with Gratings. The conveyor belt corridor will consist of a strip of land measuring 17 Km in length and about 15 meters in width, which will accommodate the two line conveyor belt system and a service road in between. Electric power required for the mining operation and the conveyor belt operation may be made available by laying power cable trays attached to the conveyor belt structure. The conveyor belt system will originate from the area which starts from joining line of mark no-21 & 22 toward south side of OMC FDP of Kurmitar Iron ore mines (referred to as 'Feeding Area'), where necessary structures and equipments shall be installed for feeding of salable ore to the system. Required piece of land for feeding area is approximately 6.90 ha. At the destination point in Mahuldiha village site, a piece of land measuring 6.40 ha will be earmarked for stockyard purpose from where iron ore will be sold to various buyers. The capacity of the proposed two-line conveyor belt system



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shall be 1000 tph each line. Fines generated after crushing & screening will be transported to the fines evacuation area proposed towards southern side of existing subgrade dump SGD.

The above said mechanical evacuation system will lie over the Forest land. Application for diversion of the above said forest land has been submitted to the Nodal officer of the Forest Deptt. for its diversion.

a) Nature of the processing / beneficiation carried out.

Since average quality of Kurmitar iron ore deposit is 62.6% Fe, no beneficiation of ore is required at Kurmitar lease. Only screening & crushing will be done to produce the desired lumps & fines fraction.

b) Method for disposal of tailings or waste from the processing plant.

Not applicable.

c) Flow sheet or schematic diagram of the processing procedure.

No processing of iron ore will be carried out at present.

d) Quantity and type of chemicals used in the processing plant.

Not applicable.

e) Quantity and type of chemicals stored on site / plant.

Not applicable

f) Quantity (cu.m. per day) of water required for mining and processing and sources of supply of water. Disposal of water and extent of recycling.

Not applicable, as no mineral processing will be carried out.