

Expression of Interest for Deepening the Existing production shaft at Khetri mine and other associated jobs.

Khetri Mine of M/s Hindustan Copper Limited (HCL) a Govt. Of India Undertaking under the Ministry of Mines, Govt. of India is operating an underground mine at Khetri, in the district of Jhunjhunu, Rajasthan. The Khetri mine is served by two major shafts, a production shaft for ore production and the service shaft for men and material hoisting. The general description of both the shafts are as under:

- 1) **Production Shaft** : This is a 5.5 m diameter circular shaft equipped with tower mounted friction Kope winder of 2800 kW capacity with 6 (six) no of ropes with 25mm dia full locked coil type. The guide in this shaft used is 8 nos of rope guides suspended from the tower of the Kope winder to (-) 85 mRL. The shaft extends to a depth of 475.5 m, from surface 390 mRL to (-) 85 mRL. It is a concrete lined and used for ore hoisting through 14 tonne skips and is a ventilation return path. A spillage drive is there at (-) 80mRL. From (-) 80 mRL to (-) 85 mRL the shaft is filled with spillage muck.

For collecting and hoisting the spillage of production shaft, a spillage shaft, known also as BGML is sunk from “0” mRL to (-) 120mRL about 22 m from the production shaft. The spillage shaft is 3 m diameter unlined, rock bolted with separate ladder way compartment having 4 “ GI pipe for CA air and 2 “ pipe for water and dewatering pipe lines. The BGML shaft is equipped with a 30 HP single drum hoist with man winding provision and provided with a ½ tonne bucket for spillage cleaning from (-) 80 mRL. The hoisted spillage is unloaded at 0 mRL through a launder to a 3.5 T G B Car and dumped to the crusher bin located at “0” mRL.

- 2) **Service shaft** : This is a rectangular shaft of 6.11mx 4.93m. The shaft extends to a depth of 388.42 m from surface [370mRL to (-)18.42 mRL]. The shaft is equipped with a double drum winder of 1,600 kW capacity and served by a double deck cages having a capacity of carrying 88 persons. The shaft is used for men, material and waste rock hoisting and is a main air intake. The shaft is RCC lined and is equipped with rigid guide rails of 60lbs/yd, ladder way and service lines for compressed air, water, power cables.

Scope of work :

M/s HCL is interested in,

1. Deepening the existing Production shaft below (-) 85 mRL to (-) 226mRL, by keeping a solid pillar of 9 m thickness below (-) 85 mRL, (the shaft bottom) and excavate the shaft from (-) 106 mRL by installing a hoist at (-) 106 mRL and sink down the shaft upto (-) 226 mRL. The diameter of the shaft after concrete lining should be 5.50 m. Water garlands has to be provided above the shaft inset at(-) 120 & 180 mRL and other places as required.
2. Excavation of shaft insets of 5.5 m wide x 3.5 m height for 25 m length at (-) 120 & (-) 180m.
3. Develop a spillage shaft of 3.5 x 3.5 m from (-) 180mRL to (-) 226 mRL for 46 m depth by drop raising at a distance of 50 m from the production shaft. Equipping the shaft with ladder way and solar in a separate ladder way compartment, along with rock bolting and laying of compressed air and water line. Below (-) 226 mRL spillage shaft further 3.0 m has to be sunk manually for pump sump. Hoist chamber and inclined and vertical rope raise to be made for installation of the 45 HP single drum hoist with man winding facilities are required. Arrangements for unloading the spillage through a launder to be made. The successful bidder has to procure the hoist, rope safety appliances as per MMR 1961.
4. Any other development that may be required within 50 m of the shaft.
5. After the shaft is completed from (-) 106mRL to (-) 226 mRL, the Production shaft solid plug that has been left below (-) 85mRL for a length of 9 m will need to be removed by drilling and blasting. with rope raise and hoist chamber.
6. Extension of guide ropes are not in the scope of work.

Interested shaft sinkers who has the experience of shaft deepening/ sinking are requested to submit EoI along with their credentials during last 7 years in respect of Shaft Sinking by 28.01.2019 and attend a “Briefing meeting” on 04.02.2019 at 3.30 pm at Hindustan Copper Limited, 1 Ashutosh Choudhury Avenue, Kolkata 700019. The interested parties may visit the site in between, however, it is not mandatory at present.