World Academy of Science, Engineering and Technology
International Journal of Materials and Metallurgical Engineering
Vol:11, No:11, 2017

# Improvement of Overall Equipment Effectiveness of Load Haul Dump Machines in Underground Coal Mines

**Authors :** J. BalaRaju, M. Govinda Raj, C. S. N. Murthy

**Abstract :** Every organization in the competitive world tends to improve its economy by increasing their production and productivity rates. Unequivocally, the production in Indian underground mines over the years is not satisfactory, due to a variety of reasons. There are manifold of avenues for the betterment of production, and one such approach is through enhanced utilization of mechanized equipment such as Load Haul Dumper (LHD). This is used as loading and hauling purpose in underground mines. In view of the aforementioned facts, this paper delves into identification of the key influencing factors such as LHDs maintenance effectiveness, vehicle condition, operator skill and utilization of the machines on performance of LHDs. An attempt has been made for improvement of performance of the equipment through evaluation of Overall Equipment Effectiveness (OEE). Two different approaches for evaluation of OEE have been adopted and compared under various operating conditions. The use of OEE calculation in terms of percentage availability, performance and quality and the hitherto existing situation of the underground mine production is evaluated. Necessary recommendations are suggested to mining industry on the basis of OEE.

**Keywords :** utilization, maintenance, availability, performance and quality
**Conference Title :** ICMMPME 2017 : International Conference on Mining, Mineral Processing and Metallurgical Engineering
**Conference Location :** Venice, Italy
**Conference Dates :** November 13-14, 2017